

PRINCIPLES AND APPROACHES APPLIED IN THE DEVELOPMENT OF OPEN INNOVATION MECHANISMS

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Actuality. Open innovation is a new concept, which appeared to change the development approach of new ideas and technologies. At present, the problem of open innovation is not actively discussed in the scientific community of the Republic of Moldova and the research of open innovation paradigms in the writings of researchers it is not conducted. Methods of researches: logic and comparative methods of analysis is used in this paper. The aim of research is to highlight the most actual questions in the field of open innovation research; and the possibility of transition to the principles of open innovation in particular sectors of Moldova's economy. Results: Are theoretical and practical of this study that allows developing a series of proposals for "openness" of innovations in Moldovan companies.

Key words: *the model of open innovation, the principles of open innovation mechanisms, research and development activities, originality.*

Actualitatea. Inova iile deschise reprezint un concept nou, care a ap rut cu scopul de a schimba modul de abordare a dezvolt rii ideilor i tehnologiilor noi. În prezent, problema inova iilor deschise nu se discut activ în comunitatea tiin ific a Republicii Moldova i cercetarea paradigmei inova iilor deschise în lucr rile cercet torilor nu se efectueaz . Metode de cercetare: s-a utilizat metoda logic i de analiz comparativ . Scopul articolului: eviden ierea a celor mai relevante întreb ri de cercetare în domeniul inova iilor deschise în anumite sectoare a economiei Republicii Moldova. Rezultate: Studiul teoretic i practic permite s dezvolte o serie de propuneri pentru "deschiderea" inova iilor a companiilor din Moldova.

Cuvinte cheie: *model al inova iilor deschise, principii, mecanismele inova iilor deschise, activit i de cercetare-dezvoltare, originalitatea.*

JEL Classification: O31; O32; O39; I29.

Introduction. At the present stage in the world economy is undergoing major changes and deep restructuring. This means that innovation must affect wider areas, and with this process, each country cannot handle alone.

The world economy is growing slowly. It needs new innovative ways of development, and for that innovations should involve wider spheres of life and become as open as it is possible. With the deepening of economic globalization, countries need to gain together knowledge and values, share the experiences with each other, work together to solve the problems of development. So, now it is necessary openness, a willingness to cooperate and share success with our partners. Namely in this is the meaning of open

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innovation. For Moldova, the introduction of the model of open innovation into practice is also one of the major factors for the economic transition to an innovative path of development.

Actuality of the study is related to the fact that currently the problem of open innovation is not actively discussed in the scientific community of our country, and the state itself operates inefficiently even of the intellectual property that is created on budgetary funds. In Moldova, the research of open innovation paradigms was not carried out by researchers.

Open innovation is a new concept, appeared for changing development approach of new ideas and technologies. Today, the concept of open innovation has been widely developed in the foreign and Russian theory and practice. This concept is considered one of the ways of efficient implementation of innovations in modern conditions of the external and internal environment of the organization [2].

To this concept it is paid special attention to innovation management in the literature: in the works of Russian scientists M.V. Alekseeva, I.V. Aleshin, K. I.Grasmika, Y.N. Grika, I.N. Dzhazovskoy, V.F. Efremchenko, K.I. Ladygina, J.A. Mingaleva, E.A. Monastyrnyi, Y.I. Nikonov, M.Y. Platonova, S.F.Popova, V.V Spitsina and others. Authors investigate a number of different paradigms of open innovation, including: search for ways of implementation the policy of open innovation by companies, open innovation as a reverse process, from the perspective of the company's investment for industrial development, open to new sources of ideas [1-6].

The model of open innovation is widespread among fastest growing companies. Open innovation involve the use of directed inflows and outflows of knowledge for creation of internal innovation, as well as expanding of markets for external use through innovation. According to the model of open innovation company must offer their ideas to third-party companies that will help it to successfully implement the project and to obtain financial results.

Open innovation is a paradigm of modern innovative management, the concept on which today are developing companies, organizations, universities, and even the countries.

Open Innovation represents a natural phenomenon of global dynamic and highly competitive markets of goods, services and ideas. Open innovation processes involve a free and voluntary interested interaction of many independent participants (both individuals and organizations) in a highly dynamic and globalizing market environment.

Open innovation and processes impose more requirements to quality of economic, scientific, political and legal institutions that constitute environment of generation, maintenance and use of innovation. It uses an open approach to the dissemination of knowledge outside the company, allowing it to expand and enhance the innovative potential of the internal innovation. A company for improvement final product attracts people from the outside of organization that offer their ideas, make remarks and suggestions.

The model of open innovation, suggests that exchange of knowledge and joint process of innovations creation (including cooperation with competitors) will be carried out selectively, which greatly enhance the competitive advantage. The company can involve new ideas and enter the market with a new product not only due to its own internal development, but also in collaboration with other organizations.

Western scholars have identified **three main objectives** of open innovation systems: motivation, integration, innovation and efficient use of the four main strategies of open innovation:

1. Organization of process of research and development by integration into a common fund.
2. Development of the particular components of an innovative product by individual companies.
3. Free sale of development of wide application, which can be used to create a variety of innovative products.
4. Significant reduction of bureaucracy during decision-making process in the field of innovation within large firms.

We share the opinion of the scientists, who, under the innovative openness of the company realize the joint with customers and suppliers, universities, and national laboratories, startup companies and industry consortia activities on research and development, the creation and promotion of innovative products and technologies on the principles of the concept of open innovation and with the use of open business models [6]. The principles of open innovation are shown in Figure 1.

Let examine in detail the principles of open innovation, which should follow our country during the transition to a model of open innovation. They are presented in Figure 1.

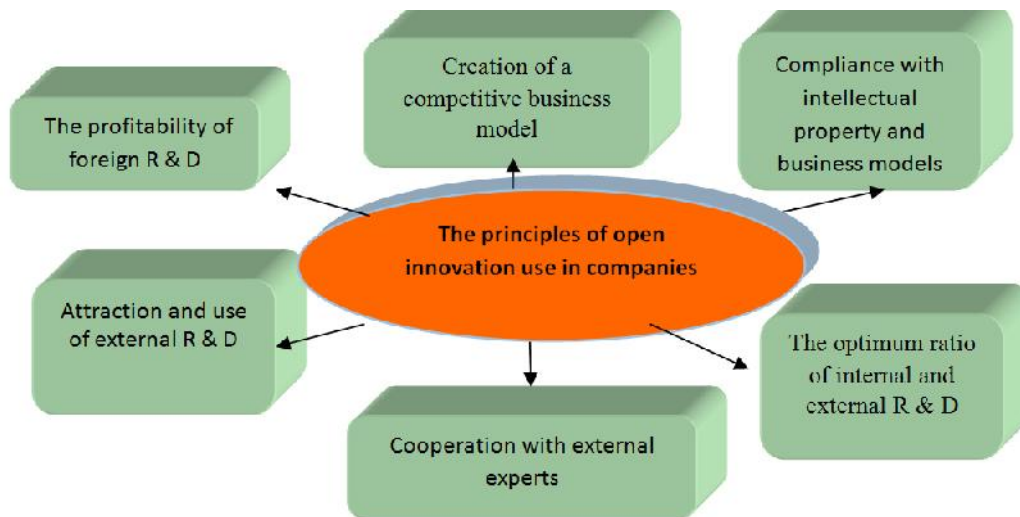


Fig. 1. Basic principles of open innovation

Source: Compiled by authors.

1. Recruitment and use of external R & D

Now the active dissemination of knowledge, the expansion of information field allows companies to apply in their projects the R & D results, not only internal but also external, other words, not deal with all the issues on their own. The new approach allows the company to use the innovative structure of undeveloped global information field, and to involve third-party R & D results.

2. Profitability of external R & D

The results of research and development do not necessarily have to be created within the company to ensure that they bring profit. External R & D, which correspond to the needs of the company and its business model should be used effectively in innovation activity and bring profit.

3. Interaction with external experts

The appearance of new information and communication capacity increases the mobility of workers engaged in research and development. The use of external experts (freelancers and employees, specialized institutions) it is more efficient due to their high competence in specialized areas, and savings on maintenance of staff. It is also appropriate to collaborate on a voluntary basis and with target consumers.

4. Creation of a competitive business model

The company has to build a sustainable and competitive business model that will be adapted to the implementation of open innovation on a permanent basis.

5. Compliance with intellectual property and business models

It is necessary to use patented innovations in production. Often due the companies' lack of necessary resources, equipment, developments remains only projects. Therefore, you must match the value of an idea or technology to company's business model.

6. The optimum ratio of internal and external R & D

External R & D results obtained in the implementation of open innovation should be adapted to the peculiarities of the company and of the target market, in accordance with its unique competence.

In an open innovation approach, the company understands that it is not the best specialists work in the company, not the best ideas arises within it, so, new ideas may be doomed to failure in a functioning business model. The company analyzes the effect of buying other people's ideas and makes a decision: whether to produce all their own ideas. Science insulation in this model is not a guarantee of success, but acts as a limiting factor. A major contribution can be co-operation with other companies in the sector, suppliers, universities and end users.

Particular significance in the implementation of open innovation has information support. We believe that the most important directions for Moldova in the work on information security is primarily the Internet – **information technology** and the information on thematic exhibitions, forums, workshops, and participation within and other.

Internet – technologies provide a unique platform for open innovation. Among the most common types of technologies identified are:

- Innovation contest, which can provide information of non-trivial technological tasks innovative issues as well as attract innovators for their solution.
- Innovative markets where in virtual space where suppliers, manufacturers and customers of innovation meet.
- Innovative community – a virtual platform for the exchange of knowledge, ideas and discussion of innovative tasks of scientists, researchers and practitioners.
- Innovative online – tools – internet services with which users can create groups to solve their problems using innovative database of professionals, ideas, Innovative technology – online service, that provides the ability to use the latest software and technology.

In addition, are used the portals dedicated to open innovation, containing all of the kinds of services. Unfortunately, in the Republic of Moldova these resources are not widespread, except for the service of the Agency for Innovation and Technology Transfer <http://www.aitt.asm.md> and the Ministry of Information Technologies and Communication of Moldova <http://www.mtic.gov.md>.

We believe that with the growing interest in open innovation and the development of the domestic IT market will take place a positive change in the current situation.

Another important area of work on information support it is collection of information on the thematic exhibitions, forums, workshops, and participation in them; establishment of links with research centers, universities, venture capital funds, business incubators on best practices and technology transfer.

At the selected group of management processes can be identified three main areas:

- collection and compilation of information on open innovation from available sources;
- direct interaction with the subjects of innovation activity;
- use of the data in the determination of strategic innovative tasks and their further implementation.

The world practice offers a variety of forms and practice of active use of the business model of open innovation Figure 2.

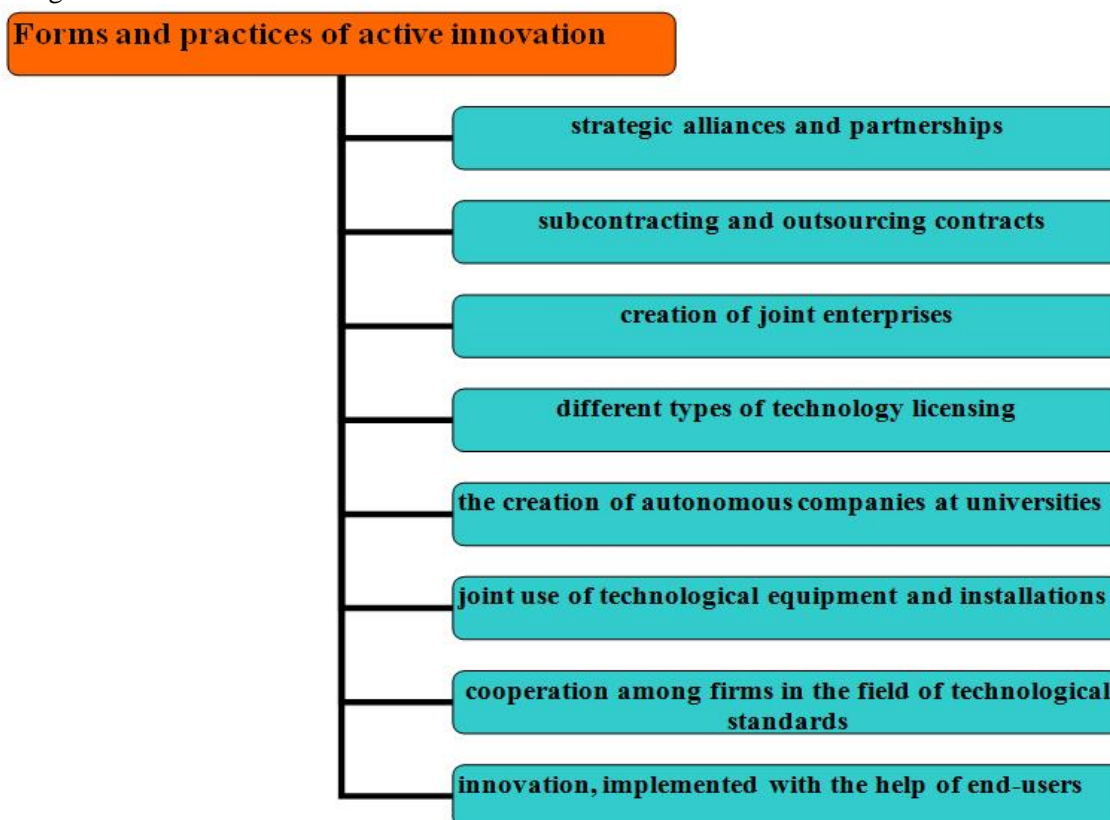


Fig. 2. Basic forms and practices of active innovation model

Source: Compiled by authors.

For the formation of an innovative open company it is needed to implement a set of actions in the following directions:

Management of R & D

- ❖ use of ready-made designs, which are from outside the company; the use of electronic databases, data search and selection of external R & D; use by company of both internal and external (joint) research and development;
- ❖ the study and use of national and international experience in the fields of innovation management;
- ❖ study and use of best practices and technologies of national and international suppliers and partners;
- ❖ identification of new spheres of application and of hidden technological reserves received by R & D.

Human Resource Management

- ❖ conduction of joint projects, researches and developments with external organizations and experts (researchers);
- ❖ development of the individual components of an innovative product (services) by individual companies; cooperation with the best staff in the industry;
- ❖ active cooperation with universities and research centers, attraction of young professionals and students in innovative projects;
- ❖ staff development through continuous training

Management of intellectual property

- ❖ implementation by the company of any innovative developments received under any circumstances: in the company or outside of it;
- ❖ forward and reverse transfer of technologies through licensing agreements acquisition by the company of intellectual property that meets its business model; the formation and management of a portfolio of emerging parallel (non-key) ideas;
- ❖ management of intellectual property as a complete asset (financial, strategic);
- ❖ participation in national and international trade fairs and conferences to presentation of the results of its R & D and learning of best practices

Management of competitiveness

- ❖ participation of service marketing in the innovation process;
- ❖ innovation management as one of the functions of the business;
- ❖ implementation of innovation management and of intellectual property in each business unit of the company;
- ❖ participation of suppliers and consumers in the innovation process; search by the company of innovation beyond its borders;
- ❖ integration of its own activities and external research and development under a single business model in collaboration with the company.

Conclusion. Our theoretical and practical studies allowed developing a number of proposals to the "openness" of innovation of Moldovan companies, which are as follows:

1. It is advisable to start the process of open innovation through participation in public (state) funded research projects that include other companies and institutions. This practice is gradually observed in local companies.

2. For the implementation of the open model of innovation in the economy entrepreneurs need to pay special attention to adjusting their business - models for the adaptation of successful experience of its application by transnational corporations and start active interaction with the venture capital market, which should be formed the next few years in the Republic of Moldova.

3. The prerequisites for transformation of activities of Moldovan companies towards a model of open innovation can be:

- intense dissemination of knowledge between the subjects of innovation activity;
- rapid growth in the number of new developments in this field;
- the patented developments could not be used due to lack of equipment, training, knowledge.

4. For the wider use of open innovation in our country we need to carry out the following activities:

- ✓ increasing intensification of research in sphere of development of innovative economy;
- ✓ internationalization of education and science;
- ✓ availability of information and the promotion of innovation and innovative values;
- ✓ external methodological support, consulting.

5. For our country it is important to borrow Finnish experience namely in the field of management of innovation processes, and enhance the overall culture of industrial process control, the introduction of evaluation criteria based on achievement of management.

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