BASIC DETERMINANTS FOR FORMING CONSUMER VALUE OF KNOWLEDGE OF INNOVATIVE ECOSYSTEM

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Introduction and objective: The problems of the country's innovation development are of particular importance during the economic downturn that is currently observed in the global economy. Over time, the crisis will somewhat be weakening, the economy will start to grow and large-scale innovation changes will become even more urgent. It is clear that solving problems of activating innovation activity of enterprises is the main guarantee of economic stability and growth.

The aim of the study – the substantiate of main determinants of the formation of the consumer value of knowledge in the innovation ecosystem.

Research methods: systems analysis was used to study the system of indicators of rural development; Cluster analysis - analysis of rural development

Results: Identifying the motives that determine the buyer's choice is extremely important in the marketing of scientific products. Taking into account all technological conditions and features and forming them in strategic goals with high quality of conducting of marketing researches allow to reveal factors influencing the competitiveness of the created technologies; to study the needs of the market in innovations; to forecast trends of development as for a certain region, industry as a whole, as well as separate scientific directions.

Conclusions: In this case, marketing tools should be used at all stages of the technology marketing complex – from its development to the promotion strategy for the end user.

Keywords: basic determinants, knowledge, innovative ecosystem.

Problem statement and its connection with important scientific and practical tasks. The current stage of development of market relations is characterized by the rigidity of the competition, the variability of macro indicators, the growth of the need for differentiation and the change in the position of consumers, the development of information networks, which makes possible the instantaneous dissemination and receipt of information, the wide availability of modern technologies, the change in the role of labor resources, as well as a number of other factors that led to a significant increase of the value of marketing innovation.

The changing macroeconomic conditions, the tendencies of strengthening the power of consumers and the pressure of counterparties, the rapidly growing competitive activity and the gradual interactivity of domestic society determine the significance and necessity of implementing the tools of the methodology of "consumer orientation" management.
Analysis of recent publications. Various aspects of the formation and development of the concept of the innovation ecosystem were researched by such scholars as: A. A. Dinkin and N. I. Ivanova [3], S. M. Ilyashenko [7], Z. O. Koval [4], O. M. Lyashenko [6], D. V. Rayko [8], A. Yu. Yakovleva [11] and many others.

Unsolved issues. For most production facilities, innovation is becoming a major factor in development. This thesis is proved by the current activity of domestic enterprises, most of which are currently suspended: without the introduction of the latest technologies adapted to the requirements of consumers, the quality of domestic products and its cost does not meet the world standards.

Formulation of research objectives. The purpose of this study is to substantiate the main determinants of the formation of the consumer value of knowledge in the innovation ecosystem.

Presentation of the main results and their justification. Today it is assumed that a high-tech business cannot exist outside of the "ecosystem", which is built by all those who participate in the innovation process [5].

We are accustomed to understanding under the notion of "ecosystem" some biological essence – a set of biosubjects that interact with each other and with the physical environment in such a way that the energy flow creates a clearly defined structure, species diversity and the circulation of substances within the system. According to the environmental dictionary, the term "ecosystem" defines a relatively stable system of dynamic equilibrium in which organisms and inorganic factors are equal components [1].

At the same time, abroad, the term "ecosystem" refers to the totality of institutions that effectively interact in the economic system. The term "ecosystem" from this point of view began to be used recently, but it is now a well-established term used by actors in the innovation market. They are a set of enterprises, organizations, institutions, their associations or any other form of ownership, providing services for the provision of innovation activities (consulting, marketing, informational and communicative, legal, educational, etc.).

Some researchers believe that the innovative ecosystem is characterized by its functions (exchange and critique of ideas, search for investors, commercialization of innovations or the creation of structures that will implement these innovations) and purpose – the kind of innovative community [11, p. 24].

Innovative ecosystem – an energy exchange system, mutually beneficial links between its participants. Accordingly, the main participants in the innovation ecosystem should be universities and research institutions (as carriers of education and science), government bodies (including local authorities), enterprises as investors and consumers of innovations.
The experience of practical research within the framework of the TEMPUS IV-5 project "Innovative Laboratories: Using Open Innovative Learning Platforms and Research Activities in Education for Enterprises to Increase Participation and Innovation Capacity of Universities in Post-Socialist Societies" (INNLAB) suggests that subjects of the innovation ecosystem in different countries have different conditions for the development of innovation market (Table 1).

**Table 1**

<table>
<thead>
<tr>
<th>Criteria for comparison</th>
<th>United Kingdom</th>
<th>Estonia</th>
<th>Greece</th>
<th>Ukraine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiators and executors of research / creation of innovations</td>
<td>Initiators – enterprises, performers – universities</td>
<td>Initiators – enterprises, performers – universities</td>
<td>Initiators – enterprises, performers – universities</td>
<td>Initiators and performers – scientific-research institutions (SRI); sometimes – universities. Links between SRI and universities are weak</td>
</tr>
<tr>
<td>Types of research</td>
<td>Applied (70–90%)</td>
<td>Mostly applied (up to 80%)</td>
<td>Mostly applied (80–95%)</td>
<td>Predominantly fundamental (up to 70%)</td>
</tr>
<tr>
<td>Legislative field</td>
<td>Formed</td>
<td>Formed</td>
<td>Formed</td>
<td>Forming</td>
</tr>
<tr>
<td>Financing</td>
<td>Government finances 50–70% of scientific developments</td>
<td>Partial state support of the funds &quot;Enterprise Estonia&quot; and &quot;Estonian Development Fund&quot;</td>
<td>The government is funding 25% of the research</td>
<td>The Government finances SRI activities, as well as individual studies in state universities</td>
</tr>
<tr>
<td>Infrastructure (technology parks, incubators, venture companies)</td>
<td>Developed</td>
<td>Developed</td>
<td>Sufficiently developed</td>
<td>Not developed</td>
</tr>
<tr>
<td>Efficiency</td>
<td>High</td>
<td>Very high</td>
<td>Medium</td>
<td>Low</td>
</tr>
</tbody>
</table>

Source: author's development.

One of the University's tasks in the innovation ecosystem is the development of opportunities for the functioning of the technology transfer mechanism of the higher educational institution – promotion of the project from the idea to the creation of a successful enterprise. Any university is interested in obtaining the maximum additional cost from the commercialization of their own technologies.
So, the University of Aristotle (city of Saloniki, Greece) has a Research and Technopark Center. Similar research centers have good results. For example, the repository of the Research Center currently has 850 research and development results, as well as 1800 partners and 250 research projects implemented over the last three years.

The notion of commercialization and valorisation of scientific and technological developments is closely associated with the notion of innovation ecosystem.

Commercialization of innovations, technologies (R&D results) is any activity aimed at generating revenue from the use of research results, skills and abilities [6, p. 75].

Under the notion of "valorisation" (from french Valorisation; valoir – "appreciate, fit") most often understood the planned, organized by the state increase in commodity prices, exchange rate of securities, currency [2, p. 136]. It can be said that valorisation is a measure taken by the state to re-evaluate or increase the value of various types of assets and capital.

In fact, valorisation reflects the processes of creating and increasing value, usefulness or significance as a result of targeted actions or measures. In our opinion, the key point in valorisation of innovations is the creation of consumer value, which is expressed in consumer value.

Consumer value is the basis for recognizing the effectiveness of scientific developments, since it is the customer's permissiveness and willingness to pay for scientific development for further use and determines the consumer value of such development.

On the readiness of the consumer to innovate and the pace of such implementation is influenced by some characteristics. This, in the opinion of the founder and researcher of the theory of diffusion of innovations E. Rogers [9, p. 36], the following determinants:

1. Relative advantage is the perception of innovation as an idea that surpasses previous ideas and solutions. Here, social prestige, convenience and pleasure play an extremely important role.

2. Compatibility is the perception of innovation as of meeting the existing values derived from past experience and the needs of potential actors who want and can implement it.

3. Difficulty is the perception of innovation in terms of clarity and ease of use.

4. Verifiability or ease of testing is the suitability of innovation for limited experimentation, which reduces the degree of uncertainty for the consumer.

5. Observance or communicative innovation – the degree of visibility of the results of innovation for others.
The presented properties of innovation explain the pace of innovation, while the most important are the first two characteristics – relative superiority and compatibility. These characteristics are in fact the basis of marketing of innovations, which are defined as activities aimed at finding new spheres and ways to use the potential of the enterprise, developing on this basis new products and technologies and their promotion on the market in order to meet the needs and requests [7, p. 7].

Note that human needs are dynamic – appear, develop, disappear during living, that is, they have some cycles, as well as economic life of society. Consumer needs are based on processes that shape the human's vital functions: processes of biological nature (nutrition, sleep etc.) and processes of social nature (acquisition and application of knowledge, self-realization etc.) [10, p. 2].

Studies have shown that the decision-making process on purchasing innovative goods, especially "social nature", is influenced mainly by the way of promotion and consumer attractiveness. They must, above all, be taken into account in order to intensify the innovation activity of producers and increase consumer demand [8, p. 5]. Consumer attractiveness in this case means the perception of the potential consumer of a set of parameters that satisfy the most important needs of consumers embodied in the main constructive, technological, environmental, ergonomic characteristics of the new product. In terms of the consumer, the new product sells the same need as the old one, but it has competitive advantages over price, quality or any other important consumer indicator.

Creating an effective mechanism for sharing knowledge between higher education institutions and state, public and business organizations involves taking into account the relevant expectations of such an exchange between all these entities. Enterprises from different fields of activity that are involved in this project are waiting for new ideas, new knowledge and new opportunities for cooperation with universities. It is important for the University to evaluate the innovative activity (innovation points) of enterprises and find out what new knowledge they need for further development and what role all participants of knowledge sharing do (Table 2).

It should be noted that the market for scientific research is more related to the market of consumer organizations – B2B, since the technology developed is secondary to the final product. In this case, it is actually necessary to conduct two marketing research: marketing of the final product and marketing of the actual technology (development).
Table 2
The role of the subjects of the innovation ecosystem in creating the consumer value of innovation

<table>
<thead>
<tr>
<th>Subjects of the innovation ecosystem</th>
<th>United Kingdom</th>
<th>Estonia</th>
<th>Greece</th>
<th>Ukraine</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>High</td>
<td>Very high, the state stimulates the considerable consumer value</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td>Universities</td>
<td>High, based on enterprise requests</td>
<td>Low, based on institutions vision</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enterprises</td>
<td>Are customers, and hence consumers of innovations</td>
<td>Mostly, they are not customers, and therefore consumers of innovations</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: author's development.

The main goal of the study of consumers of innovations in the framework of integrated market research of the market is to find out the specific incentive factors that will be guided by the consumer when deciding on the acquisition of scientific development (technologies).

Conclusions and perspectives for further research. The growth of the role of individual subjects of the innovation ecosystem, the need for their purposeful interaction with each other and the external environment is the problem of management of the ecosystem. Effective management should include orientation of marketing, and through it, innovative, investment and production activities of economic entities to identify and make full use of existing and prospective market opportunities, supporting a certain balance of external and internal reserves of innovation development, in order to achieve success in competition, maximizing current and promising revenues, but with the obligatory consideration of consumers' needs.

References


4. Коваль З. О. Оцінювання ефективності