

THE FORMATION OF THE SYSTEM OF PARAMETERS TO ESTIMATE THE INNOVATIVE POTENTIAL OF ENTERPRISES

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The formation of the strategy of innovative development of an enterprise should be carried out according to its innovative potential. The article specifies the basic concepts of innovative potential and innovative activity and considers their basic components to define innovative opportunities of an enterprise and to estimate the efficiency of their use.

More often scientific literature contains statements claiming that innovative activities are the main instrument to raise the competitive ability of the economic agents. It is absolutely justified as changing the economic situation, dynamism of market environment, development of technological progress, and support of investment activities demand application of innovations for creating competitive advantages. All this defines the necessity to specify the basic characteristics of innovative activities.

Generalizing the formed approaches to the definition of innovative activities in the normative and scientific literature we conclude that innovative activities are the process of creating, commercialization, bringing innovations to the final consumer, using innovations in activities in the form of up-to-date equipment and technology, using new methods of organization of production process and marketing.

An important condition of carrying out innovative activities is the certain level of innovative potential, which can be used effectively under systematic estimation of its level in the organization. The results of this estimation must be objective and useful. That's why it is necessary to elaborate such a system of parameters that will allow to investigate different but interconnected factors that form the innovative potential of an enterprise. Except the estimation of innovative potential level of an enterprise it is important to investigate the degree and effectiveness of its usage and success of innovative activities. It will help to reveal inactive reserves of innovative potential and form innovative strategy of enterprise development.

However, at first it is necessary to specify the notion of innovative potential.

If we address to the explanatory dictionary of D.N. Ushakov, we will find that it defines

“potential” as the aggregate of means, conditions necessary for carrying on, sustaining, and preservation of something. In the big bookkeeper's dictionary potential is defined as the aggregate of available means and opportunities in some sphere.

That's why we define innovative potential of an enterprise as the aggregate of resources that are owned by the economic agent under research and that contribute to the success of innovative activities.

Economic literature pays quite enough attention to the questions of forming innovative potential; however, the available information is often fragmentary and contradictory and doesn't have a single interpretation. Most often research and personnel potentials are called the basis of innovative potential. However, these two lines reflect all the factors that influence the success of carrying out innovative activities insufficiently. That's why together with researching the potential itself it is advisable to distinguish the resource component, as the success of carrying out innovative activities of enterprises depends on the complex of resources they have. All the resources are grouped into 5 particular potentials, that in aggregate form the innovative potential of an enterprise (see fig. 1).

Each of the components of innovative potential contains a number of parameters that in the aggregate allow to define the degree of readiness and the possibility of carrying out innovative activities of an enterprise. The aggregate of the given parameters is not exhaustive and it can be completed in accordance with the objectives of the analysis.

The presence of research potential is compulsory for carrying on the research and development work (further in the text R&D), for cre-

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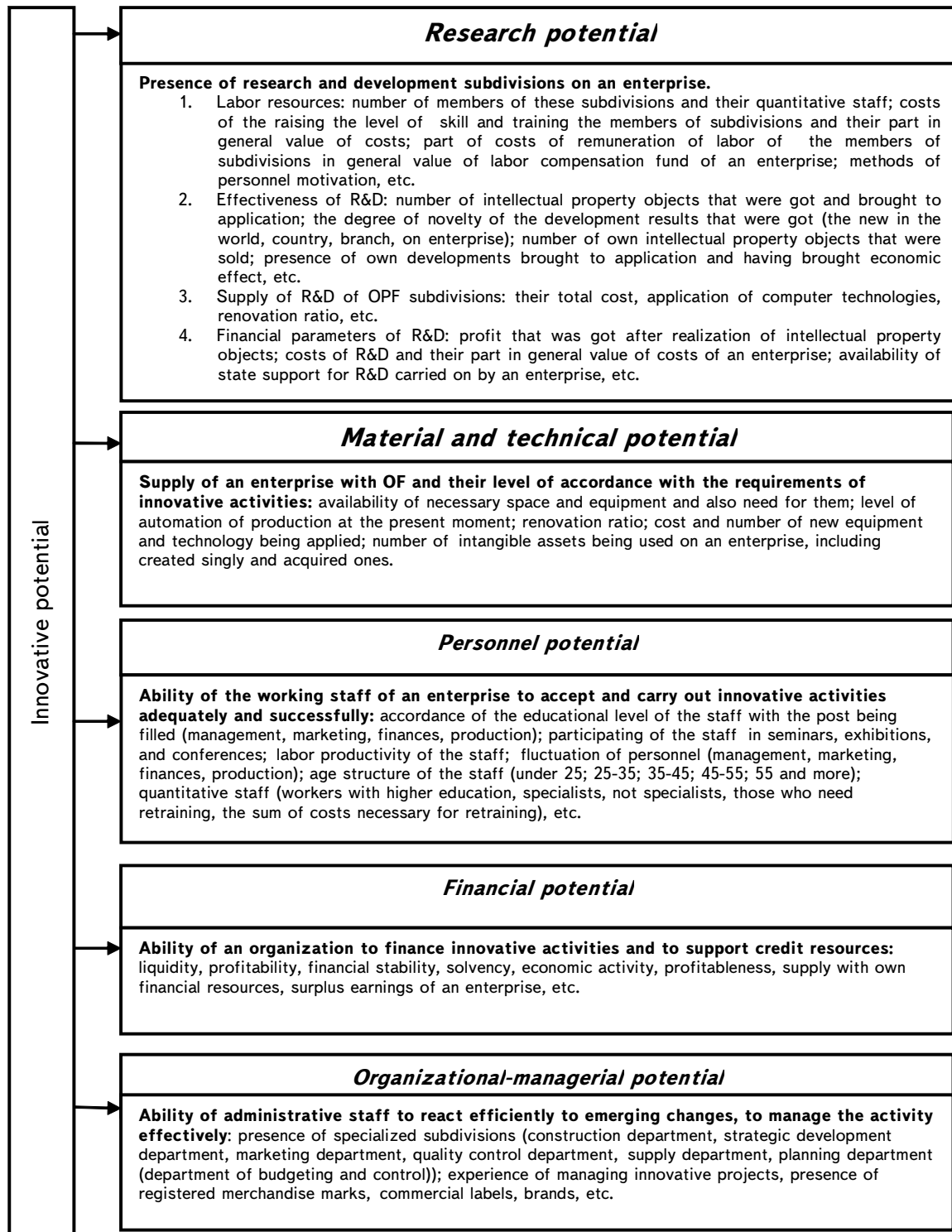


Fig. 1. Characteristics of innovative potential in the context of resources used

ating innovations. This component of innovative potential differs from the others because it includes a complex of parameters that characterizes the activities of R&D department and allows to evaluate the success of its organization, its supply with qualified personnel, basic production assets, the level of financing these activities and their effectiveness.

Material and technical potential is necessary to support any production activities. Innovative projects demand extra space, up-to-date equipment, using new technologies that are more efficient and more economical.

One of the main factors of innovative economics is the intellectual (manpower) resources. It is obvious that in the enterprises where

the personnel has appropriate specialization and educational level, strives for development, has enough experience, participates actively in the specialized seminars, conferences and is interested in successful activities of the enterprise, carrying out innovative activities will be more effective in comparison with the enterprises where qualitative and quantitative staff doesn't correspond to the required level and where there is staff turnover and a lack of motivation.

Innovative activities demand considerable investments and have a high degree of risk, that's why the presence of investment opportunities in an enterprise, the opportunities to attract external resources is the prerequisite for their carrying out. Accordingly, financial potential of an enterprise should be distinguished.

The aggregate of factors forming innovative potential can provide effective activities of

an enterprise. The estimation of innovative potential can also reveal the shortage of resources needed for the innovative activities that should be eliminated.

The final stage of estimation of innovative potential is the analysis of the efficiency of its use, in other words defining the innovative activity attained by an enterprise.

In accordance with the recommendations on collecting and analyzing innovations data of "Management of Oslo", a firm is considered to be an innovatively active one, if it has been carrying out innovative activities during the period of time under investigation, including firms with ongoing or suspended activities of such kind. Therefore, innovative activity is a characteristic of innovative activities of an enterprise.

To study innovative activity more profoundly it is necessary to do the estimation in the con-

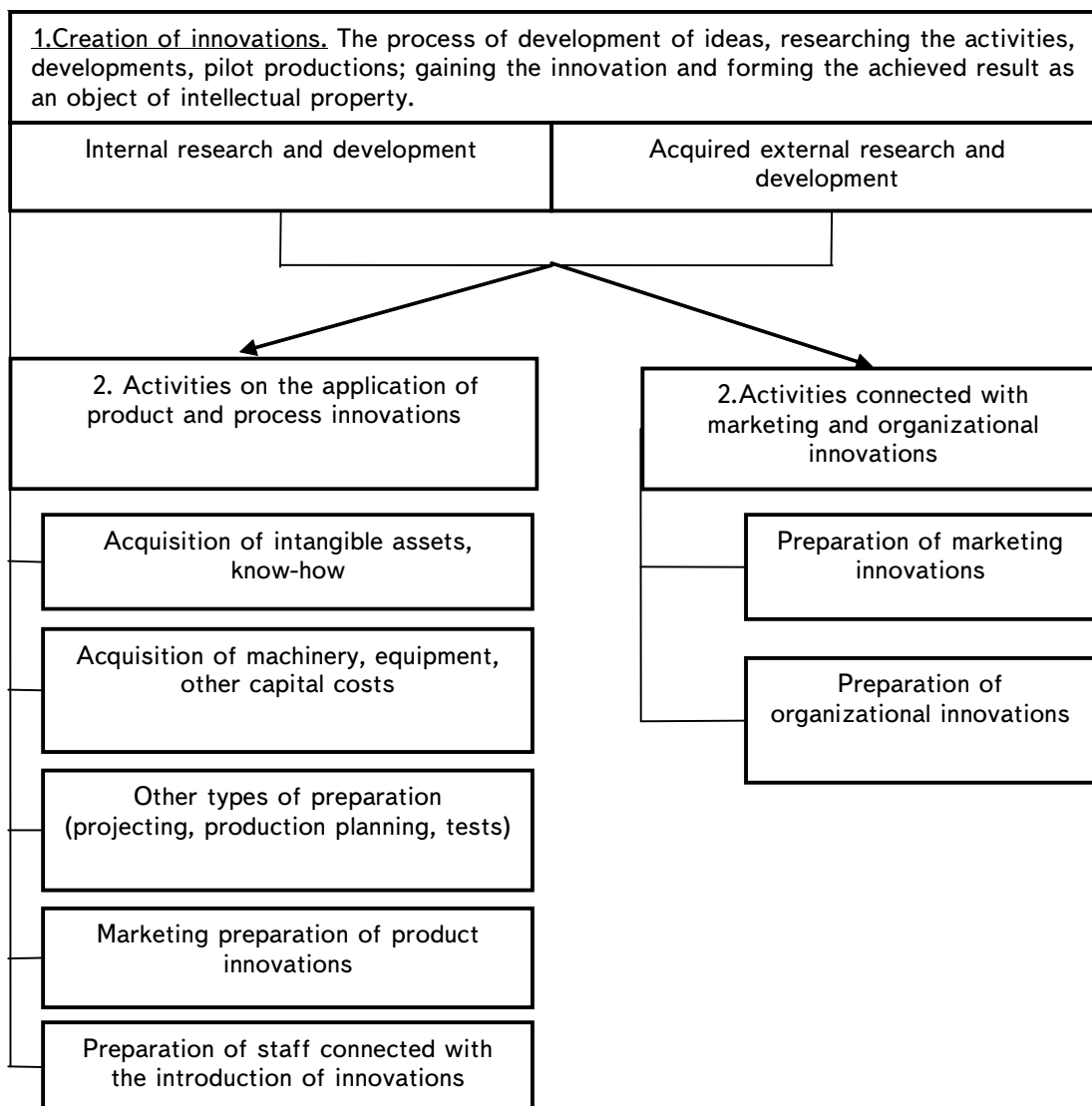


Fig. 2. Stages of innovative activities

text of separate types of innovative activities that are shown in fig. 2.

Generally, all the innovative activities can be subdivided into two stages: research activities and the activities on the application of different types of innovations. Besides, for the detailed estimation the last stage should be subdivided according to the types of innovations. There are four types of innovations to be distinguished:

1. Product innovation - introduction of goods or services that is new or has been considerably updated in a number of characteristics or ways of its using (updating the technical characteristics of goods, components, materials, etc.)

2. Process innovation - application of a new or considerably improved method of production or delivery of a product (changes in technology, production equipment, software, etc.)

3. Marketing innovation - application of a new marketing method, including considerable changes in design, packaging, storage, sales promotion or the retail price.

4. Organizational innovation - application of a new organizational method to the business practice of a firm, etc.

The suggested structure allows to reveal the most successful directions of innovative activities being carried out by an enterprise, to define the reasons of failure to carry out innovative activities, and to reveal the unused reserves of innovative potential.

Based on the types of innovative activities of an enterprise, it is suggested to use the system of parameters for the estimation of innovative activity of an enterprise shown in fig. 3.

It should be marked that the estimation must be done in the context of types of innovative activities, types of innovations being carried out, quantitative and qualitative characteristics.

| Stages of innovative activities | | | | | |
|---|--|--|---------------------|----------------------------|-----------------------|
| Creating innovations | | Application of innovations basing on types | | | |
| Internal research and development | Acquired external research and development | Product innovations | Process innovations | Organizational innovations | Marketing innovations |
| <i>Quantitative characteristics</i> | | | | | |
| 1. Number of innovative projects launched | | | | | |
| 2. Number of innovative projects completed successfully | | | | | |
| 3. Number of innovations developed singly and applied successfully | | | | | |
| 4. Number of acquired innovations applied successfully | | | | | |
| 5. Entering new markets | | | | | |
| 6. Participating of an enterprise in exhibitions, seminars, conferences, grants | | | | | |
| <i>Qualitative characteristics</i> | | | | | |
| Costs of an enterprise | | | | | |
| 1. Capital costs: | | | | | |
| 1.1. Costs of internal research and development (wages of personnel carrying out R&D; material costs of research subdivisions; depreciation of equipment of laboratories and research subdivisions; other costs of R&D) | | | | | |
| 1.2. Cost of acquired results of external research and development | | | | | |
| 1.3. Cost of patents, merchandise marks, up-to-date machinery and equipment; up-to-date technologies, computing machinery, software, land, buildings that were acquired and are being used. | | | | | |
| 2. Current costs: | | | | | |
| 2.1. Costs of wages of working staff involved into innovative activities directly | | | | | |
| 2.2. Other costs (wages of auxiliary and operating personnel; costs to buy and deliver the materials; marketing research costs, costs of retraining and raising the level of personnel skill, etc.) | | | | | |
| Results of innovative activities: | | | | | |
| 1. Volume of sales of innovative production (including export) | | | | | |
| 2. Part of innovative production in total volume of sales | | | | | |
| 3. Profitability of innovative production | | | | | |
| 4. Index of costs per 1 ruble of innovative production | | | | | |
| 5. Part of costs of innovative activities that didn't bring positive results in total volume of receipts | | | | | |
| Funding sources | | | | | |
| 1. Internal funds | | | | | |
| 2. Funds of commercial credit companies (bank credits, venture capital, assets of investment funds, etc.) | | | | | |

Fig. 3. The system of parameters of innovative activity of an enterprise

Also, all the costs of an enterprise connected with innovative activities should be subdivided into capital and current ones. Capital costs include: costs of internal research and development, acquisition of non-circulating assets that are necessary for carrying out innovative activities. Current costs, in accordance with the "Management of Oslo", are the costs of an enterprise for carrying out innovative activities. They consist of labor costs of permanent and temporary staff and other current costs.

To carry out innovative activities successfully, it is needed to use innovative potential of an enterprise effectively. The given system of potentials that forms innovative potential of an enterprise allows to define available opportunities of an enterprise for carrying out innovative activities. And estimation of innovative activity characterizes degree and efficiency of using in-

novative potential. This information can help the enterprise management to form a strategy of innovative development of an enterprise taking into account available opportunities and present defects.

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