

Intellectual Property in the Innovations

Area: The Economic and Legal Aspect

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Article 418 of the Civil Code of Ukraine (1) (the "CC of Ukraine") considers intellectual property as the right of a person to the result of their intellectual and creative activity or other object of intellectual property rights defined by the CC of Ukraine and other laws of Ukraine. It follows from this definition that: first, intellectual property rights are determined by the state through enshrining them in the law; second, they are protected and secured in accordance with the procedure established by law; and third, these rights are related to the relevant objects that are defined by legislation of Ukraine and international legal instruments.

Special legal literature on intellectual property considers the concept of "intellectual property rights" both from the perspective of intellectual property rights being a civil law institution and subjective rights.

Intellectual property rights as a civil law institution are a set of legal rules that govern social relations in the area of creating, using and protecting results of one's intellectual and creative activity.

In particular, it is worth noting that the existence of institutions of intellectual property rights that are relatively independent and, at the same time, each having its own peculiarities, is conditioned upon the specifics of objects of intellectual property rights (objects of IPR).

Such institutions include:

- the institution of intellectual property rights to objects of copyright and related rights;
- the institution of patent rights (inventions, utility models, industrial designs);
- the institution of intellectual property rights to other results of scientific and technical creative activity (scientific discoveries, laid – out integrated circuits, innovation proposals, plant varieties, animal breeds and trade secrets);
- the institution of intellectual property rights to means of individualization of subjects of civil circulation, goods and services (trade names, trade marks and geographical designations) (2).

The content of intellectual property rights are personal non - property rights and (or) intellectual property rights (paragraph 2, Article 412 of the CC of Ukraine).

As a result of creating objects of IPR, the subject of these rights acquires a number of subjective rights of both personal non- property and property nature.

Personal non- property rights are understood as a type of civil rights arising out of intangible benefits that are inalienable from the person and gain an economic content (Chapter 15 of the CC of Ukraine). Property rights are understood as

subjective rights related to the use of objects of IPR as well as pecuniary (property) claims arising between participants in legal relations concerning the use of IPR objects (for example, authors' and inventors right to royalties) (Article 424 and Article 426 of the CC of Ukraine).

Such classification of rights that are the content of intellectual property rights has a relevant practical meaning. The provisions of the CC of Ukraine are based on the fact that, generally, only the creator of an IPR object may hold personal non-property rights to it. They may not be alienated from the creator's person and, as a rule, may not be transferred to other persons. Property rights to an IPR object may be vested in other persons in the manner prescribed by law. The content of said rights with regard to specific IPR objects is described in relevant Chapters of the CC of Ukraine and in special legislation -laws of Ukraine governing social relations concerning legal protection of some IPR objects.

Article 424 of the CC of Ukraine provides a general list of intellectual property rights to IPR objects.

The system of intellectual property economics considers innovation as an already materialized result of transformation of creator's intellectual property (an intellectual product) with the characteristic of an object of intellectual property rights embodied in an innovative product or innovative products, which have been put on the market and, after their sale (commercialization), an income (profit) is generated.

In an innovations-oriented economy, anevergrowing importance is attributed to activities of enterprises mat use innovations in their business and accumulate innovative potential. It justifies economic feasibility of an innovations and investment process based on production capital that, in combination with intellectual capital, ensures added value.

Innovations-oriented development requires national economic entities to restructure their management systems and create a marketing-based system of searching for new areas and ways of realizing their potential that would be based on new products, new technologies and new methods of production and sales.

Solutions to the problem of implementing innovations differ from country to country. However, certain aspects may be noted that are common to the majority of modern leaders in the area of scientific and technical progress.

Ukraine is solving a task for itself of building and implementing an innovative model of development (transformations) based on an innovations component determining the goal of the innovations strategy and mechanisms of supporting priority programs and projects.

The strategy of the innovative model of development means achieving a qualitatively new type of economic system, which is characterized by:

- innovative objectives and innovative results of production activities (goods, services, efficiency, competitiveness, etc.), tactically and strategically;
- innovative methods of achieving the objectives (innovative factors in the form of novel equipment and technology, novel organization and motivation of labor and production);
- the priority use of the aggregate of innovative factors in determining the amount and form s of investments implemented at different time sequence,

namely: a serial, parallel, and integral process of making capital investments and obtaining profits.

Innovative factors are the main factors in the development of an economic system. These are new-type system equipment, new technologies, new organization of labor and production, a new incentives system and entrepreneurship.

The priority use of the aggregate of innovative factors in the development of the economy is the essence of its transition to a qualitatively new type of development that allows it to acquire an economic balance in the market environment.

The state of economic balance as an intrinsic property of an integral economic organism characterizes the type of its development. As a scientific category, economic balance represents the essence of the special state of the economic system in the complex market environment, providing a guarantee of the purposefulness of its development at the present time and in the foreseeable future. It combines the aggregate of properties of the system itself and the most important components of its production and commercial activities, including product quality and innovative characteristics, the level of scientific and technical development of fixed assets, stability of its renewable resources, and the state of development of its human and intellectual potential as well as the existence of innovations management. The type of economic development is characterized not only by the predominantly used factors but also by the state of the processes related to the formation and effectiveness of the used factors - resources; and concerning the production of goods, innovations (3).

From the above statements, one may single out the innovative type of development of an economic system, where innovative activities are carried out both, on a macro level (the state as a whole, regional or industry economy) and on a micro level (enterprises, enterprise associations).

Innovative activity is an activity aimed at using and commercializing the results of scientific research and development, which brings new competitive products and services to the market.

The foundation of the innovative activity is the innovations policy carried out either at the level of the state (macro level) or at enterprise level (micro level).

The main goals of the State Innovations Policy are;

- orientation at the innovative way of development of Ukraine's economy;
- setting of national priorities for innovative development;
- formation of a legal framework in the area of innovation activities;
- creation of conditions to preserve, develop and use the national scientific and technical and innovation potential;
- ensuring of interaction between science, education, production, and the financial and credit sector in the development of innovation activities;
- effective use of market mechanisms to promote innovation activities, support of entrepreneurship in the scientific and industrial sector;
- implementation of measures to support international scientific and technological cooperation, the transfer of technologies, protection of domestic products in the domestic market and their promotion in foreign markets;
- financial support, implementation of enabling credit, tax and customs policies in the area of innovation activities;

- promotion of the development of innovative infrastructure;
- information support of subjects of innovation activities;
- staff training in the area of innovation activities.

The structure of an innovative model of development of an economic system is shown in Figure 1.

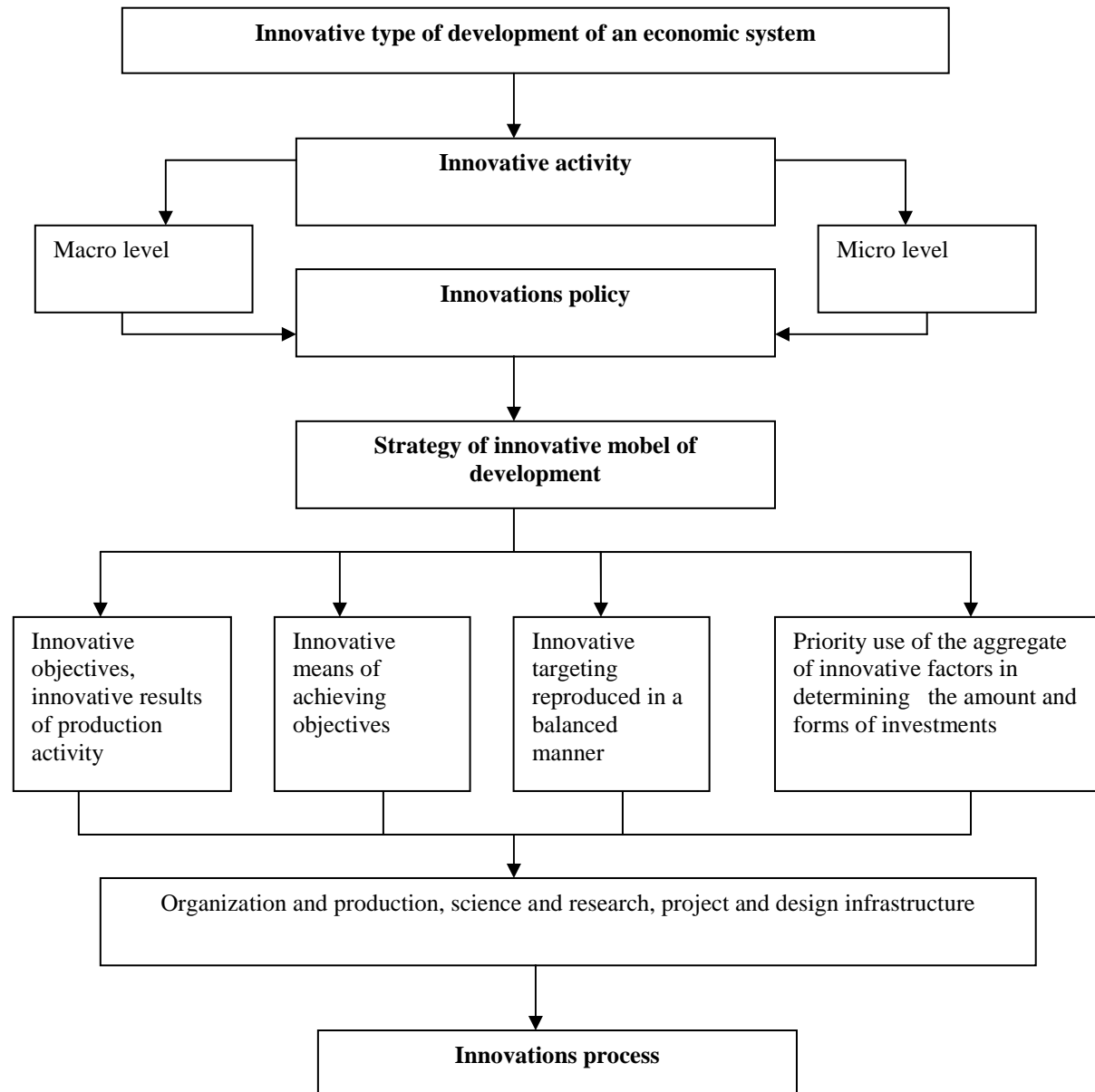


Fig. 1. Structure of an innovative model of development of an economic system

The innovative model of development of an economic system must essentially take into consideration the innovative type of development of the economy in a market environment. The innovative type of development of an economic system builds on innovation activities implemented pursuant to an innovations policy. The essence and economic meaning of an innovations policy are manifested in the development of innovative model strategies.

State regulation of innovation activities is carried out through:

- determining and supporting priority areas of innovation activities at the national, industry, regional and local levels;

- forming and implementing national, industry, regional and local innovation programs;
- creating a legal framework and economic mechanisms to support and encourage innovation activities;
- providing financial support to the implementation of innovation projects;
- encouraging commercial banks and other finance and credit institutions that provide loans for the implementation of innovation projects;
- supporting the functioning and development of a modern innovation infrastructure.

The implementation of the innovations policy is possible only under the conditions of a consistent implementation of the innovation process.

The innovation process must be based on organization and production as well as scientific research and development infrastructure aimed at implementing innovation activities.

It is worth noting that the transition of the economy to the innovative type of development must begin at the primary and corporate production chain that is the foundation for industrial and financial groups, technological parks, joint ventures and other business formations - innovative entities. This may occur in a supportive innovation and investment climate at the macro and regional level.

Innovation process is a sequence of actions to create ideas for a possible innovation, marketing of innovations, production, sale and dissemination of this innovation as well as the assessment of the effectiveness of innovations (4).

Stages of the innovation process:

- 1) selecting a scenario for the creation of a new product or new products (based on the existing model, developing a brand new article or new products);
- 2) generating and selecting the most successful ideas for the creation of a new article or new products;
- 3) filtering (screening) ideas - excluding those that are unsuitable for further consideration;
- 4) making a final selection of an idea;
- 5) scientific research and development work stage and creating a design prototype;
- 6) manufacturing products for research under market conditions;
- 7) implementing large-scale plans: modifying the article and its small-scale production or modifying products and their small production, developing the market and its segments; recognizing the fact that the idea was wrong;
- 8) stopping production;
- 9) deciding on releasing a new product and its serial or mass production or large-scale production of new products.

It is worth noting that the innovation process aims at obtaining a final product, which is the innovation product and innovation products.

The basis of this process is the transformation of intellectual property into a final product of the innovation activity which may be carried out only as part of the innovation process.

The structure of the innovation process is shown in Fig. 2.

An incentive or precondition of the innovation process is obtaining (accumulating) relevant information about intentions, the experience, the carrying out and implementation of innovations.

We should note that information sources in the creation of new products, technologies and equipment may be (4):

- information from clients including surveys of their opinions and special surveys;
- information obtained from periodicals, visits to fairs, shows and conferences;
- information obtained in the course of the performance of a comparative analysis of products, technologies and competitors' operational methods (using bench marketing techniques);
- receipt of rationalization proposals including the organization of quality circles and brainstorming teams;
- information obtained when studying the causes of faulty production and complaints;
- information that appears as a result of accidental ideas, etc.

If ideas about new products come from the sales market or from development engineers, it means a partial renewal of the products. If an idea comes from the market of scientific research and development work under the influence of scientific and technological advancement, a brand new product or a new technology is offered in this case.

A transformation of scientific and technical development works into an innovative product that can be manufactured and sold in the market with a probability of receiving a high level of income from the newly introduced product is the most important stage along the chain that links science to consumers. This is related to the fact that the developers do not understand well the factors that dominate the market; neither do they have an understanding of consumer needs or an experience in technological entrepreneurship (5). A transformation of intellectual property through the innovation process with a view to achieving the result of innovative activity must take into consideration the following constituents of the innovation process, including (Fig. 2):

- 1) stages of innovative design;
- 2) stages of investment support.

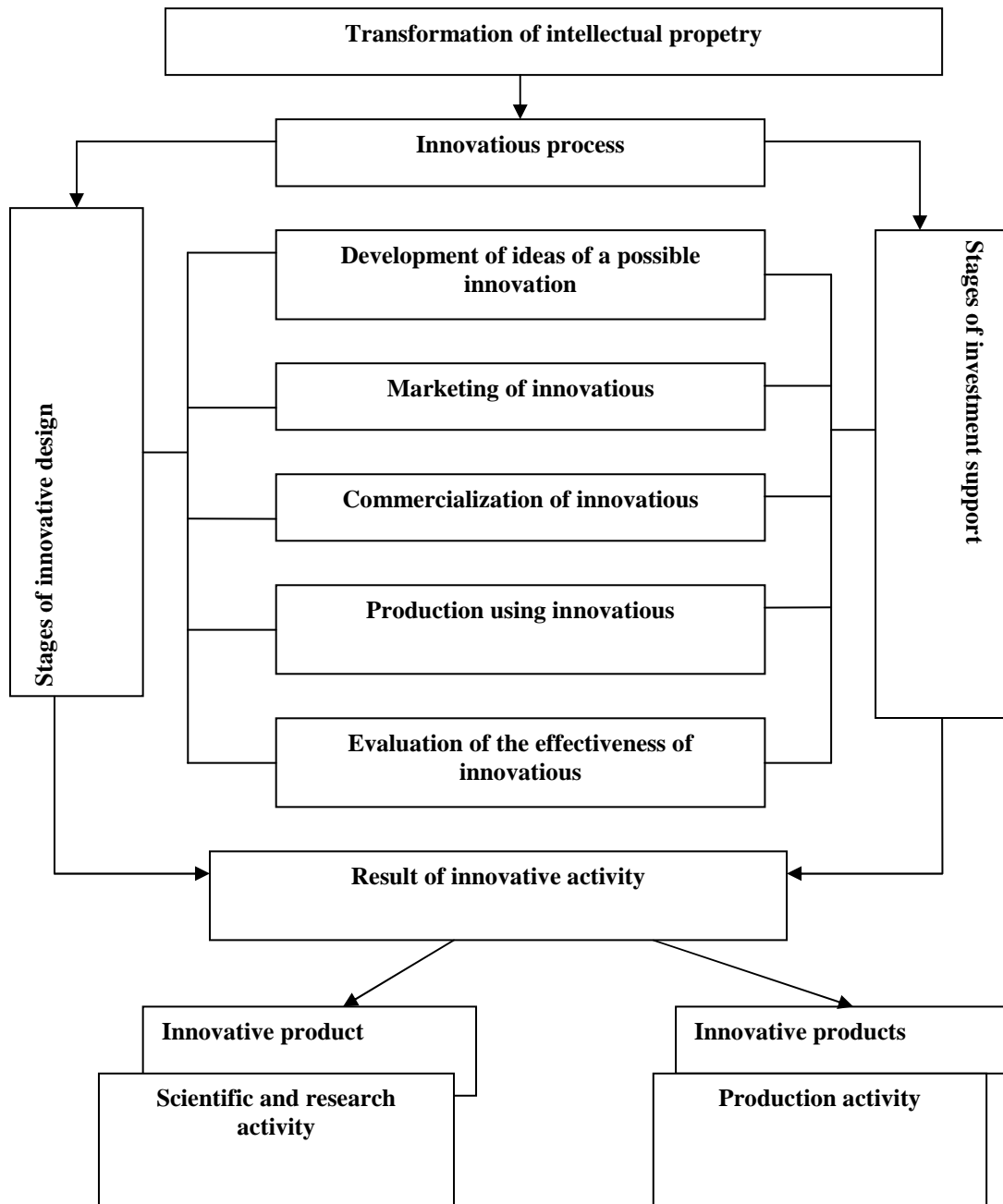


Fig. 2. Structuring of the innovation process

It is a materialized component of the transformation of intellectual property that has its own implementation mechanism, methodological support and funding sources. It is worth noting that stages of innovative design and stages of investment support have the same direction, both generally and separately by each component, taking into consideration different timelines of the investment process.

A transformation of intellectual property into an innovative product envisages structuring of the innovation process. Traditionally, it includes: Generation of a new idea - Experimental implementation of the new idea - Setting up production - Mass production - Consumption.

The organizational basis for a transformation of intellectual property into an innovative product is the development and implementation of an innovation project

by appropriate stages of innovative design, including (Fig. 3):

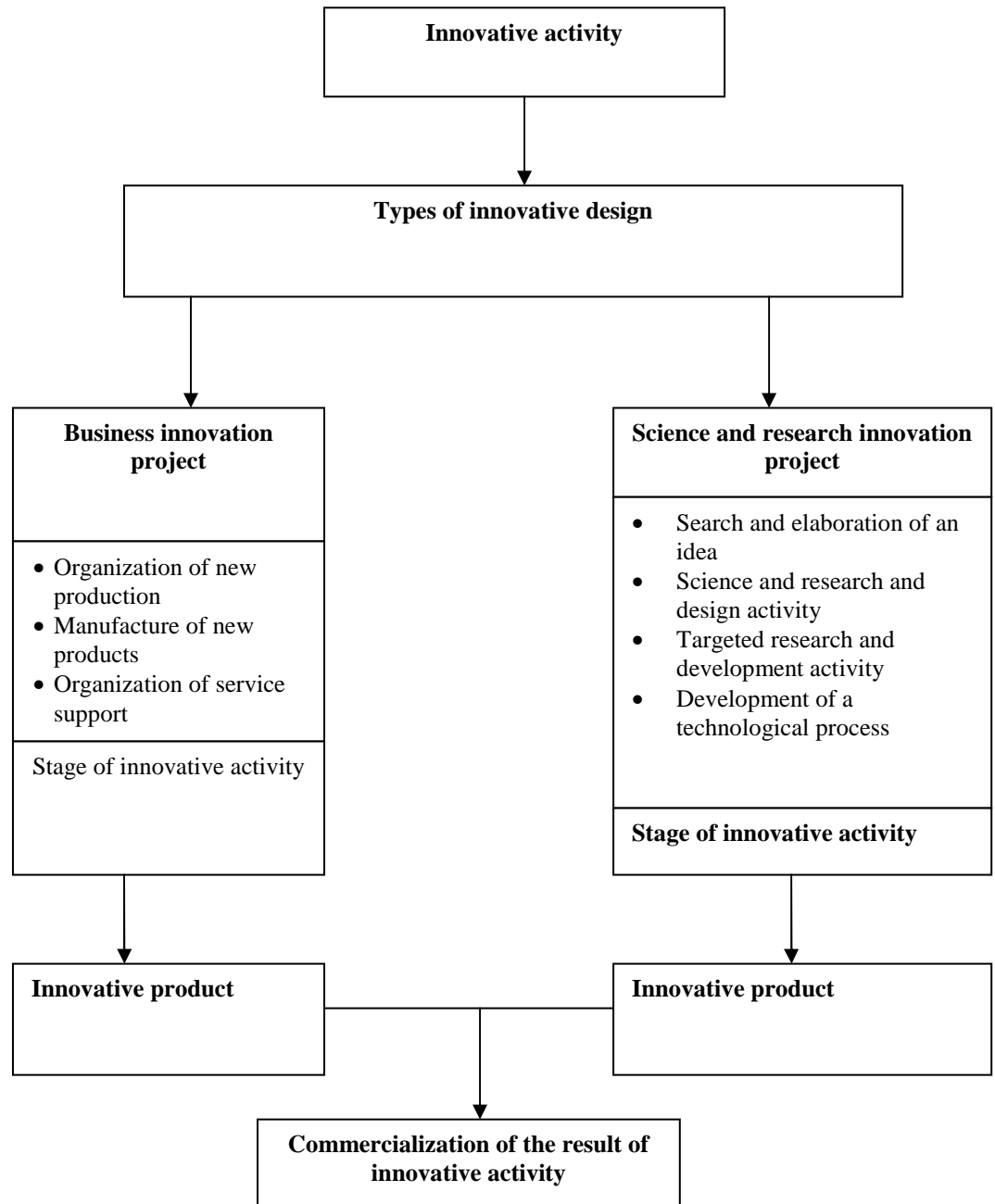


Fig. 3. Innovative activity by types of innovative design

A business plan of innovative activity allows one to assess the potential of an innovation project at its final stage, determine income and costs, its self-financing ability, calculate real cash flows, analyze ROI for an innovation project and full repayment of loan funds that are attracted.

Of course, a business plan of innovative activity is part of a business plan of an enterprise, investment plan of an enterprise or reorganization plan of an enterprise.

An innovation project that covers the stage of innovative activity of scientific research and development institutions as part of the overall innovation process, namely: search for and development of ideas (fundamental and basic research, discoveries, plans, and proposals); performance of scientific research and development work (creating a working prototype that is, demonstrating the

realization of ideas);

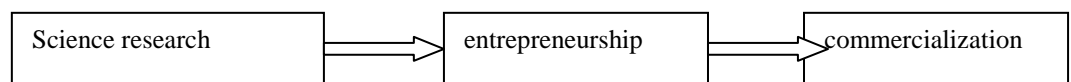
performing targeted scientific research, process design and its material support - is a scientific research project.

This innovation project describes the stage of scientific research and development work in the overall innovation process. At the same time, if the result of this stage of innovative design is an innovative product (scientific development works, discoveries, inventions and other innovations) that may be sold (commercialized), this process ends in the commercialization stage.

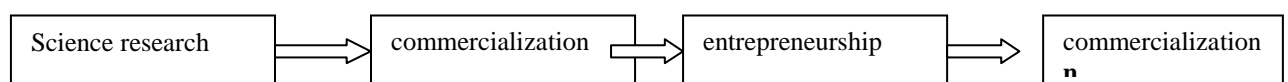
An innovation project that covers the stage of innovative activity of an enterprise as part of the overall innovation process, namely: organizing new production (small-scale, large-scale), manufacturing new products; organizing service support of new products - is an entrepreneurship project.

This innovation project describes the stage of entrepreneurship in the overall innovation process. At the same time, if the results of this stage of innovative design are innovative products (discoveries, utility models, industrial designs, and other innovations) that may be sold (commercialized), this process ends in the commercialization stage.

Experience shows that, under real conditions, the time between creating a new product and receiving the first profits from its sale in the market for innovations is approximately three-four years; in rare cases it is less, namely:



or



The modern production system is formed under the conditions of innovative development.

This is a large open system that is constantly under pressure from exogenous (external) and endogenous (internal) factors that both promote and inhibit the innovative development. The mechanism of the functioning of such system is described in the below scheme (Fig. 4).

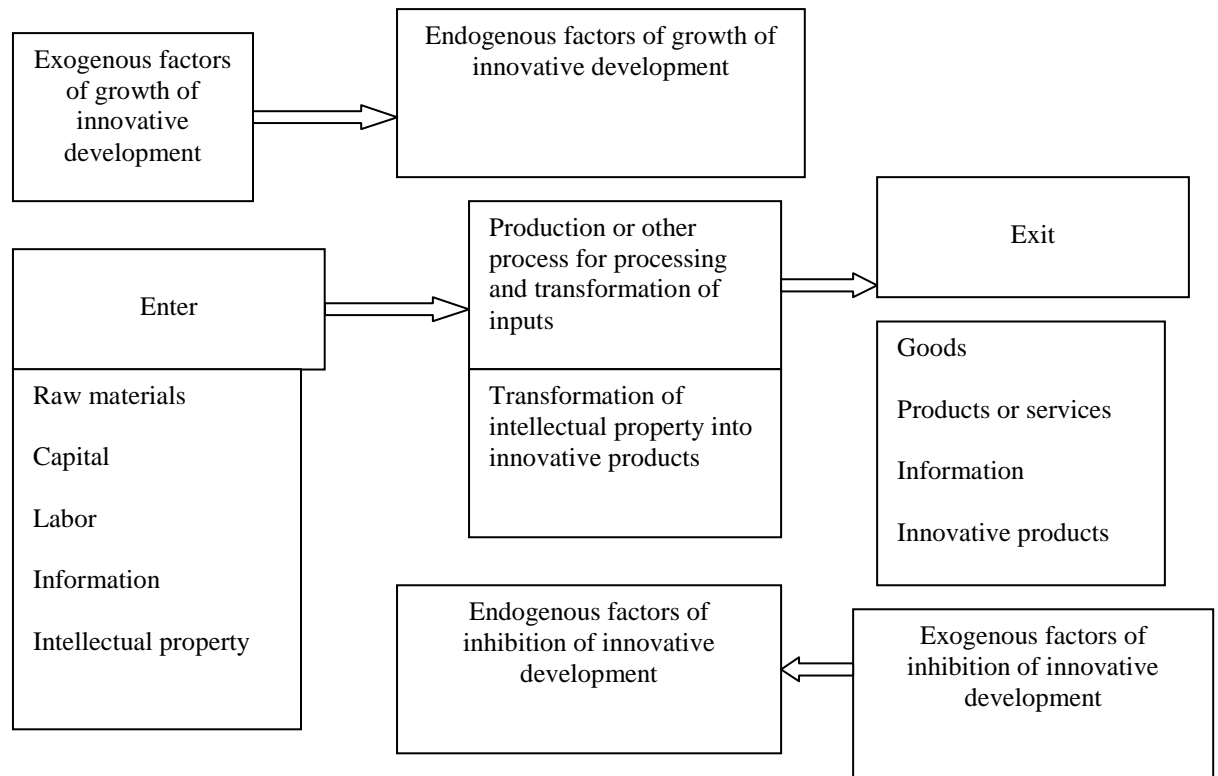


Fig. 4. Production system as an open system under the conditions of operation of exogenous and endogenous factors of growth and inhibition of innovative development

A component of the transformation of intellectual property into an innovative product or an innovation process is innovations marketing.

Innovations marketing includes planning of production of innovations, a market study (using benchmarking tools) establishing communications, pricing, development of a brand strategy for innovations, and promotion of innovations, etc. (Fig.5).

As regards innovations, benchmarking means studying other businesses with a view to establishing basic characteristics to develop one's innovations policy and specific types of innovations.

The main tasks of marketing activity are modified in line with the stages of a product life-cycle (Table 1).

At the stage of implementation, the manufacturer may use its innovative monopoly to generate supernormal profits and get established in the market. Innovative monopoly on a new product may be ensured due to:

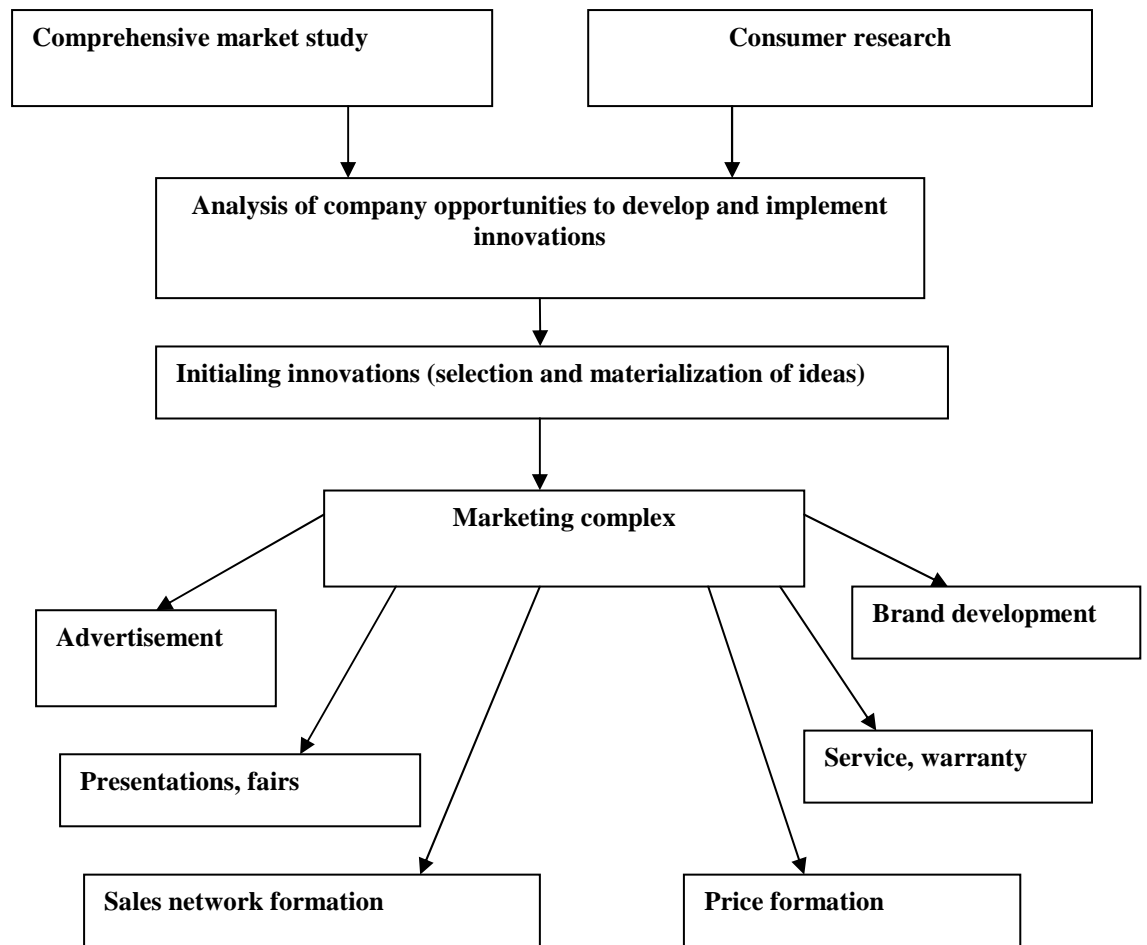


Fig.5. A scheme of the innovations marketing process

1)registration and active protection of patents to inventions that are included in the design or technology of new production;

2)preservation of a trade secret regarding key technological solutions (know-how) for new production.

The most important types of innovations marketing is strategic innovations marketing and tactical innovations marketing.

Strategic marketing research is based on an analysis of the market situation with a further breakdown by market segments, organization and formation of demand and modeling of buyers' behavior.

Strategic innovation marketing envisions that the firm takes decisions on the choice of new products or a new product.

Demand for innovations is the demand for new products and technologies.

Tactical innovation marketing is based on the" preparation for putting new market research related to a new product and its positioning;

- marketing research by new market elements for a product that was produced previously;

products (articles) on the market.

This is a system of measures to promote products (articles) on the market that envisions the following:

№	Stages of product life-cycle	Tasks of marketing
1	Development and implementation	Marketing research. Market tests. Disseminating information about products. Working to get it accepted by the consumers, creating brand advantages. Maximizing the advantages of the innovative monopoly
2	Growth	Market penetration. Maximizing advantages achieved through primary promotion of products. Broad advertising.
3	Maturity	Preserving own market share. Preparing new ideas for innovation projects, creating new modifications or brand new products.
4	Ageing	Assessing the possibilities of abandoning the production.

- market research related to a new product and its positioning;
- marketing research by new market elements for a product that was produced previously;
- organizing the possibilities for supplying the product under more competitive conditions and establishing it on the market.

Using intellectual property in economic activity (Fig.6).

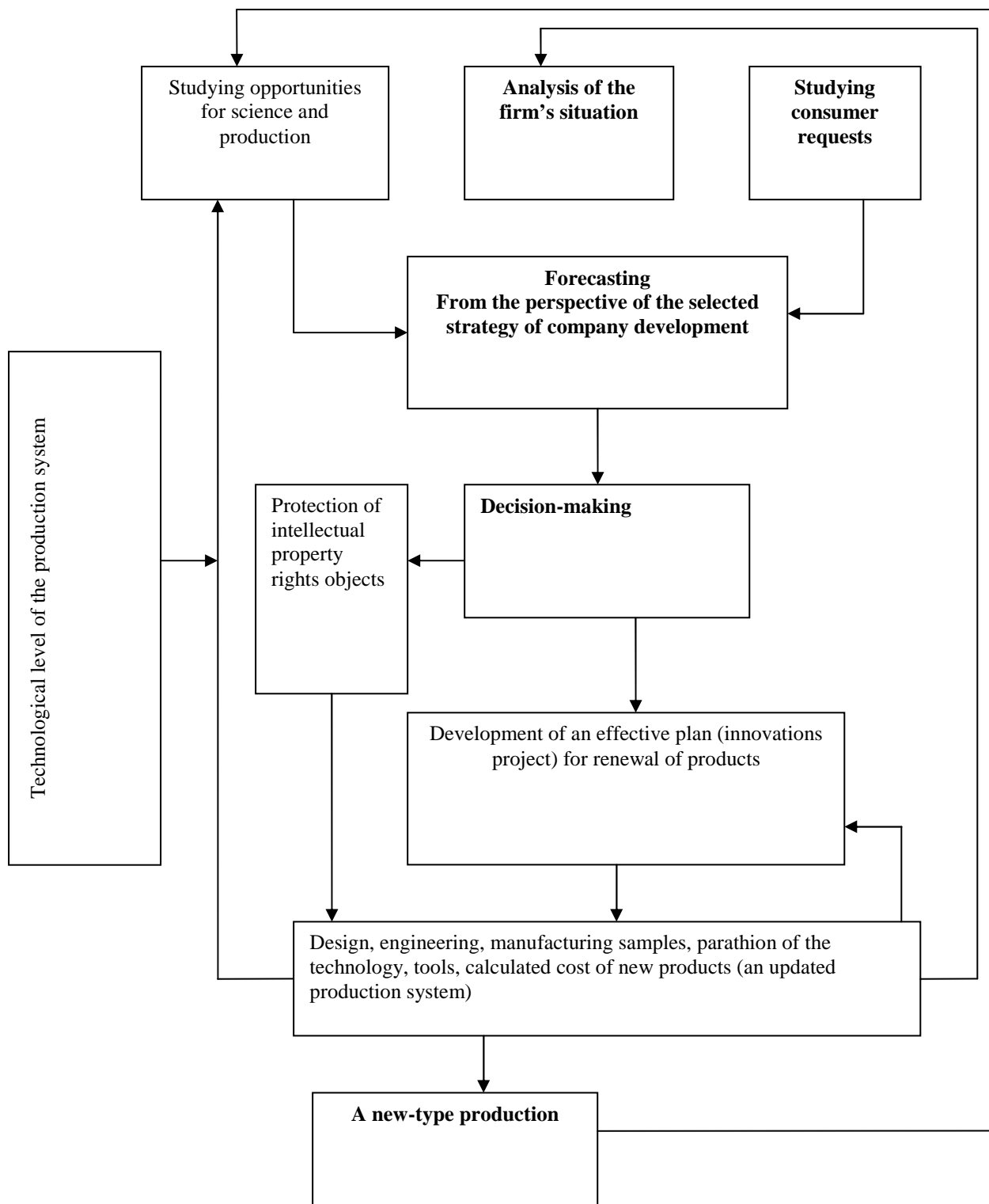


Fig. 6. Stages of creating an intellectual product and putting it to commercial use

The use of intellectual property in economic activity is carried out through its commercialization. There are at least four participants in this process: the author of a development work (an invention, plant variety, utility model, etc.), the strategic partner, the manager and the investor.

The commercialization mechanism reproduces the movement of intellectual capital with a view to generating profits. For the manager, intellectual capital has

two main components: human capital and intellectual resources. Human capital or intellectual potential creates innovations, and something that may be described and identified becomes intellectual resources. Some intellectual resources, certainly those that have the highest commercial potential, obtain legal protection and become intellectual property.

Economic activity carried out to achieve economic and social results and to obtain profits is entrepreneurship and entrepreneurship subjects are entrepreneurs.

Entrepreneurs are regulated by entrepreneurial law, in which the rules of administrative and civil law prevail (6).

It is worth noting that entrepreneurial activity includes also commercial activity that is one of the components of economic activity - it has a narrower meaning. Activity regarding objects of IPR is called commercialization. It occurs in the course of using; the results of intellectual activity under the entered -into agreements, for example, between patent co-authors; between patent owners and authors in connection with payment of remuneration for the use of industrial property; between patent owners in the course of commercialization of an intellectual product by transferring ownership or issuing a permit to use it based on a license agreement, etc.

By level (object) of legal regulation of relevant legal relations, entrepreneurial law is divided into public and private entrepreneurial law (6).

Public entrepreneurial law governs the organization of public institutions and their relations with individuals, including entrepreneurs.

Private entrepreneurial law governs relations between individuals in connection with their carrying out of entrepreneurial activity.

Therefore, legal regulation of economic activity involving IPR objects is based on a set of normative acts related to commercial law, public and private entrepreneurial law, law of intellectual property rights, in particular, patent laws, laws on copyright and related rights as well as tax laws (legislation). This is a complex system of legal rules in the area of intellectual property aimed at obtaining the final result of economic activity - profits that are the source of remuneration for the use of objects of IPR. (Fig. 7).

The use of intellectual property as intangible assets in the economic activity of enterprises and accounting for operations of using such objects allows the following:

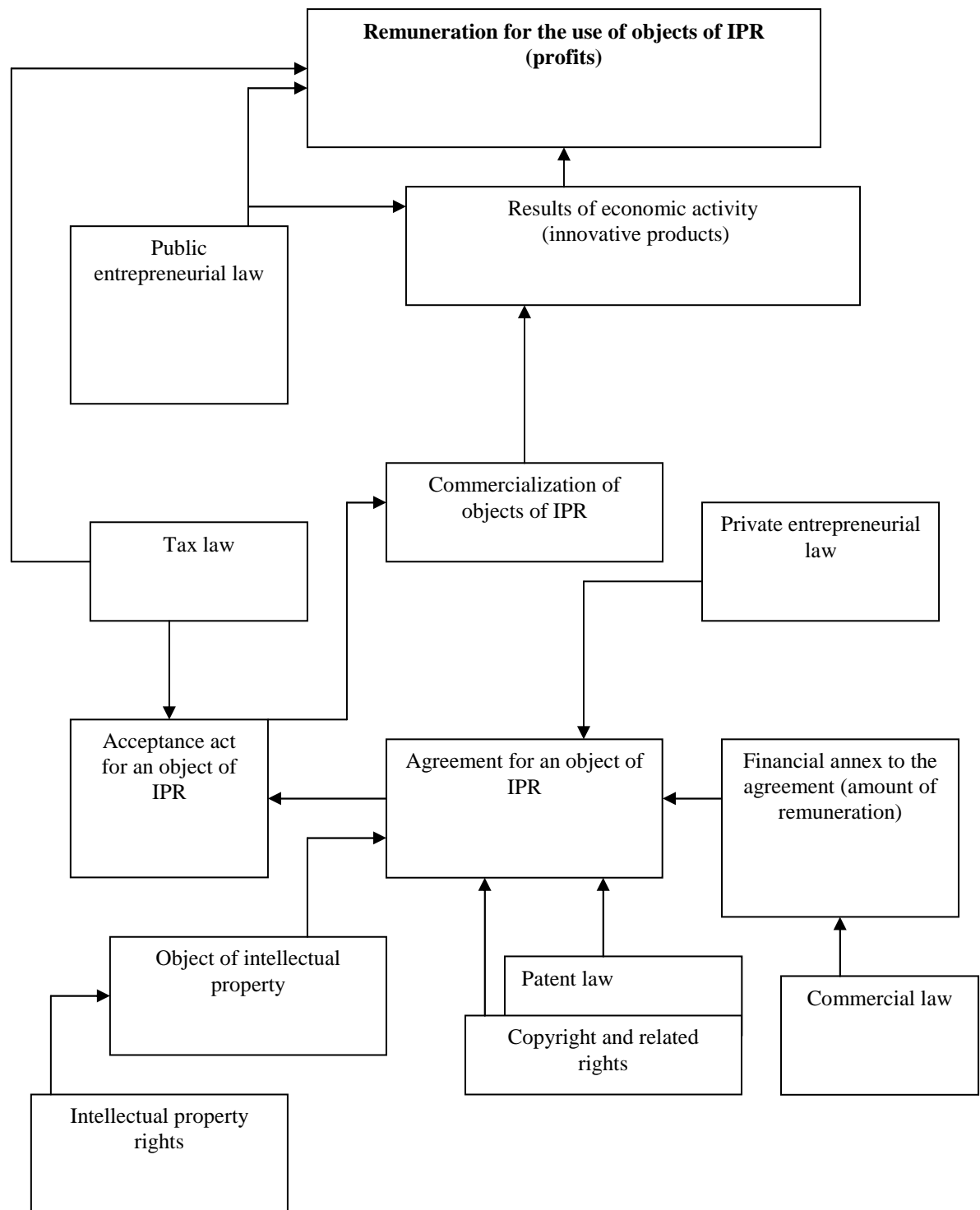


Fig.7. Legal regulation of economic activity involving objects of intellectual property rights

- to obtain additional profits from the transfer of rights to use objects of intellectual property as well as to ensure a justified pricing of enterprise's innovative products;
- to pay individuals and legal entities their author's royalties;

- to carry out commercial transactions in the form of pledge, exchange for reliable assets and sale with a view to receiving income and attracting adequate loan funds;
- to upgrade production equipment and technologies by introducing intellectual capital into commercial circulation of enterprises;
- to carry out corporate transactions by contributing own intellectual product to authorized capitals of other enterprises (business companies), which allows attracting additional financial resources and obtaining relevant corporate rights with a view to influencing the activities of business companies.

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