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Auswirkungen von innovationsprozess und -aktivität auf die produktionseffizienz

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Zusammenfassung: Dieser Artikel zeigt die wachsende Rolle von Innovationen in der Entwicklung der Wirtschaft, deren Einführung die Wettbewerbsfähigkeit unserer Produkte erhöht, Kosten und Energieverbrauch senkt, den Zufluss privater Investitionen erhöht und neue Märkte schafft.

Schlüsselwörter: Innovation, Investitionen, Wirtschaftswachstum, Innovationsprozess, wissenschaftliche Idee, wissenschaftliche Innovation, grundlegende Innovation, verbesserte Innovation, wirtschaftliche Effizienz.

Effects of innovation process and activity on production efficiency

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Abstract: This article shows the growing role of innovations in the development of the economy, the introduction of which will increase the competitiveness of our products, reduce costs and energy consumption, increase the inflow of private investment, and create new markets.

Keywords: innovation, investment, economic growth, innovation process, scientific idea, scientific innovation, basic innovation, enhanced innovation, economic efficiency.

Introduction

At the current stage of deepening economic reforms and structural transformations in our country, priority attention is paid to the process of

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modernization of production. This is due to the fact that the task of radical modernization of the national economy, the production of products competitive in the world market and a further increase in the share of finished products in exports cannot be solved without the modernization of enterprises.

It is worth noting that every regulatory document that is being developed today in our country, every measure taken is aimed at further accelerating these processes.

Including:

- "Five priority directions of development of the Republic of Uzbekistan for 2017-2021" President decree of Republic of Uzbekistan "On organizational measures to develop a draft State program for the implementation of the Action Strategy for the Year of support of active entrepreneurship, innovative ideas and technologie " [1];

- aimed at ensuring stable rates of economic growth and macroeconomic balance and stable operation of the main sectors of the real sector of the economy, targeted support of enterprises and small businesses in the leading industries of the Resolution "On additional measures to improve the mechanisms of innovation in industries and sectors of the economy" [2].

“... We need to carefully analyze the large-scale reforms that we are carrying out in all areas and sectors, and clearly define our plans for the future. I would like to pay special attention to the work being carried out to diversify our products.

The social and economic development of the world today is very different in its content from the previous stages. The most important aspect of this is the growing integration and globalization of the national economy. At the same time, these processes will intensify competition in the international arena, as well as the struggle of each country to strengthen its position in the international division of labor.

In this sense, the process of economic development that the world community is going through today is reflected in the negative consequences of globalization. Accordingly, when determining the current and future measures of the socio-economic development of our country, we need to take into account the impact of the

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global financial crisis, formulate economic development programs in terms of the impact of these processes and consistently implement them. [3]

In accordance with this task, a new market mechanism is being formed in our country, which includes the expansion of innovative and mutually beneficial cooperation between science and industry. At the same time, world experience shows that without an effective economic mechanism, even the most advanced material and technical base or the cost of large sums of money will not give the expected results. If production does not develop and there are no internal incentives, all material, capital expenditures will not benefit scientific development. In this regard, the effectiveness of the use of innovative means and technologies in the development of the agricultural sector of Uzbekistan, the development of innovative management and the modernization of their activities determine the relevance of the chosen topic.

In the context of economic development, socio-economic development requires continuous improvement of production and, therefore, the introduction of innovations. Innovation enables activities to be more efficient.

Main part

These days, news is called innovation, which has a slightly broader meaning than innovation. Any business activity is a direct innovation process, and its organization requires knowledge and skills.

Admittedly, innovation is a tricky business. But as there are no details on the case, there are no details. As a consequence, it requires a very careful approach to the issue. This situation requires certain knowledge and skills from innovators, especially entrepreneurs who have invested their own money. As a result, innovation is always on the agenda as one of the priorities in the life of every self-aware entrepreneur.

All of these situations require innovation research. But research begins with a definition. In this context, we will theoretically focus on the definition of this term. This is evidenced by the "Explanatory Dictionary of the Uzbek Language". The term "innovation" comes from the English word "innovation", which means innovation, invention. There are three definitions of this term: [4]

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1. Funds spent on the economy for the introduction of new types of equipment and technologies (generations).

2. Innovations in advanced technology and technology, management and other areas and their application in various fields.

3. New developments in a specific language, mainly in the field of its morphology.

To some extent, this concept is the basis for developing content and defining innovation. However, in the economic literature there are different opinions on this matter, which, firstly, are very far from each other, and many aspects are not taken into account. Second, what perspective is important in defining any category or concept. Because of this uncertainty, there are many differences in the definition of innovation.

Obviously, there are still many theoretical and practical problems that need to be solved in order to properly use innovation. Solving them today, especially in the future, is the key to the country's economic growth and competitiveness through innovation.

Based on this need, we will try to develop a theoretical definition of the concept of innovation, which is applicable to all areas in general, and substantiate it theoretically.

First of all, when we talk about innovations, we must first of all take into account advanced ideas and developments. Because in order to improve any process, first of all there is an idea, and on this basis the development is formed. These two things are at the heart of all other innovation processes. This applies equally to all aspects of our economy and our social life.

Second, advances in science and technology, technology and new inventions must also be reflected in the definition of innovation. Because when an innovation is created on the basis of an idea, its development proves its theoretical and practical significance.

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Thirdly, it is necessary to reflect the phenomenon of the application of these innovations in various spheres (economic, social, spiritual life, management, etc.). Since innovation is the process of introducing innovation, it must cover all areas. Because it's not just about the economy, it's not about management. Or it will be difficult to ensure the full development and prosperity of society, even if it is not implemented in the economy and implemented in public life.

Based on the theoretical principles outlined above, we recommend the following definition of innovation. Innovation is the application of the results of developments based on advanced ideas in various fields (economic, social, spiritual life, management system, and others.) as scientific and technical achievements, advanced technologies and new inventions. In our opinion, this definition is relevant for all spheres, all times and all interested parties. In this regard, we believe that this definition can be considered as the most advanced definition of innovation.

In our opinion, innovation should be divided into several categories. As a result of our research, it was determined that there are 7 such markers, because the interests of the creators of the innovation diverge from the interests of its users. Or, it may be required that each industry takes into account the specifics of its innovations. Innovation also varies over time. As a result, innovation can be classified according to the following characteristics:

- Classification of innovators.
- Classification of innovations by competitiveness.
- Classification of innovations by interests.
- Classification according to the degree of implementation of innovations.
- Classification of innovations by economic content in terms of extended production links.
- Classification of innovations by industry.
- Classification of innovations by time.

The creation and use of innovation is reflected in the diversity of competitiveness and industry.

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Innovation activity - the introduction of the results of completed research and projects or other scientific and technical achievements (scientific and technical achievements) into a new or improved technological process used for practical activities, sold on the market for a new or improved product, as well as related additional research and projects - this is a submitted process.

An innovation process is a process in which the economic activity of an economic entity is aimed at introducing new research and development or the results of other scientific and technological advances into a new or improved technological process, as well as additional research and development.

Innovation is the end result of the introduction of innovations in order to improve the object of management and increase efficiency in the economic, social, environmental, scientific and technical or other areas. In the process of classifying innovations, their classification features and the classification of innovations play an important role. (Table 1).

Innovation is the development and implementation of new types of products, technologies, organizational and management forms. There is another definition: "Innovation is the complex process of creating, disseminating and using a new practical tool to meet the changing needs of society as a result of a newly created environment."

In general, innovation is the renewal of fixed capital (production assets) or products based on the attraction of scientific, technical, and technological advances. This is a process based on the objective laws of improving production in society.

There are the following types of innovations:

By the degree of radicality (novelty):

- implements basic innovations, major discoveries and forms the basis for the formation of new generations and areas of technical development;

- enhanced innovation usually prevails in the implementation of small and medium discoveries, the spread of the scientific and technological cycle and sustainable development;

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- Partial strengthening of innovation, technology and outdated technology.

Table 1. Classification of innovations [5]

#	Classification properties	Classification grouping of innovation
1	the field of innovation	management, organizational, social, etc.
2	stages of scientific and technological development leading to innovation	scientific, technical, technological, production, information
3	level of intensity of innovations	highest level, lowest level
4	innovation rates	fast, slow, fading, growing, steady
5	scale of innovation	transcontinental, transnational, regional, large, medium, small
6	results of innovations	high, low, stable
7	effectiveness of innovations	economic, social, environmental

Functions:

- product innovations aimed at the production and use of new products;
- Technological innovations aimed at creating and introducing new technologies;
- social innovations aimed at the creation and functioning of new structures;
- complex innovations, which are an integral unit of changes of several types;
- market innovations to meet the demand for goods and services in new markets;

Source:

- innovations caused by the development of science and technology;

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- innovations obtained as a result of production;

- Innovation created by market demand.

- By importance in the breeding process:

- consumer innovation;

- investment innovations;

On a scale:

- complex (artificial) innovations.

Innovations come in different forms, depending on their characteristics and characteristics, the degree of their impact, the degree of radicalism, the source of the idea and the type. (Table 2).

The mechanism that plays the role of innovation is, first of all, market competition. In the process of using outdated equipment and technologies, manufacturers and consumers suffer differently, as a result of which they are forced to reduce production costs through innovation.

Thus, innovation helps firms maintain their competitive edge.

Table 2. Classifier of innovations

Signs of innovation	**Character of indicators**		
The extent of the impact	Global	Within the network	In the exact field
The degree of radicalism of innovation	Basic	Improvement	Application
Source of ideas	Open	Discovery	Offer
Types of innovation	Construction and device	Technology	Materials
Replacement of existing analogues	Free implementation	Systematically	Systematically

The development of innovations and their implementation in market conditions depends on the stage of their life cycle. [6] In theory, the faster the innovation process takes place, the greater the chances of success for the innovation.

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The innovation process is a much more complex concept. This can be done from different points of view and from different points of view on filtering. First, it can be seen as an activity carried out in sync with scientific research, scientific technology, innovation and production. Secondly, the conditions that are usually included in the innovation process can be considered as temporary stages of the life cycle from the appearance of an idea to its implementation and implementation.

The need to form innovative entrepreneurship in the Republic of Uzbekistan during the transition to a market economy is due to the following factors:

- intensification of intensive factors of production, which allows the use of scientific and technical products in all spheres of economic activity;

- the key role of science in improving the efficiency of project development and the introduction of new technologies;

- the need to significantly reduce the time to create and replace new equipment in market conditions;

- The need to improve the technical level of production.

Innovative entrepreneurship is the process of creating and using technological innovation.

As a rule, entrepreneurial activity is based on the introduction of new procedures in the production of goods or services, which allow creating a new market and meeting new requirements. Innovation is a unique tool for entrepreneurship.

Innovative entrepreneurship is the process of running a business and focusing on innovation, looking for new opportunities based on a specific innovation process of creating something new. The entrepreneur must be willing to take moral and social responsibility for the same actions that he or she is trying to implement in a new project or improve an existing one. In general, innovative entrepreneurship can be characterized as a technical and economic process in society that leads to the creation of good products (services) through the practical application of the newly introduced procedures.

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In the economic literature, there are 3 main types of innovative entrepreneurship: product innovation, technological innovation, social innovation.

The first type of innovative entrepreneurship is the process of renewing the trading potential of the enterprise, which allows the firm to increase revenue, expand its market share, retain customers, and create new jobs to support itself.

The second type is the process of renewing production facilities aimed at increasing production efficiency, saving energy, raw materials and other resources. This, in turn, will allow the company to increase profits, improve safety, take measures to protect the environment, and effectively use the company's internal information system.

The last type of innovative entrepreneurship is the general process of improving the humanitarian knowledge of the enterprise based on the planning of social innovation. The use of this type of innovation expands the opportunities for increasing the number of employees in the market, mobilizes employees to achieve their goals, and strengthens their confidence in their social obligations.

The search for a new idea is important for an innovative business, so it is worth dwelling in more detail. Entrepreneurship is based on a clear plan, and the idea of entrepreneurship, based on activism and deeply rooted innovation initiatives, can encompass the entire production as well as one or more discrete parts. If you focus on specific parts of a business idea, you can highlight the main areas of entrepreneurial activity that are possible for the implementation of the idea, that is, full or partial renovation of the enterprise:

- study of the production management system;

- use of new equipment or technologies;

- the use of more economical or durable new materials in the manufacture of the product;

- Improving the design of products, packaging;

- Creation of a fundamentally new system for organizing the company's advertising campaign.

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But the innovative nature of an entrepreneurial firm can stem not only from the factors of production, the production process itself or the organization of the product, but also from the location of the people involved in the production process. In this case, the business idea can be based on the following activities:

- full or partial replacement of all participants in the production process in order to dismiss unskilled workers;

- organization of "work ethics" of team members;

- take measures to ensure that each employee makes the most of his working time;

- Specific sources of innovative ideas include:

- consumer research, i.e. their needs;

- Scientists, if they are engaged in the invention of commercial properties, materials that can lead to the creation of original or improved versions of goods, services;

- competitors, in some cases their activities aimed at meeting the needs of consumers, can motivate the entrepreneur to formulate his own innovative plan;

- sales agents, dealers and other intermediaries;

- Advisors to the entrepreneur on any specific elements of innovation;

- direct employees of the enterprise.

Some firms use company employees as a source of innovative ideas, using special methods to motivate employees to develop new products; it involves ordinary people in the process of generating innovative ideas.

Our research shows that investments are mainly made by three categories of people (experts, scientists, designers and inventors). In this regard, we consider it necessary to divide the innovations under this brand into the following types:

- innovations created by researchers;

- innovations created by experienced practitioners;

- innovations created by special inventors;

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The interconnectedness of this group of innovations is visible in the following table (Table 3).

Table 3. Classification by Innovators

Classification of innovation from the point of view of creators		
Innovation created by researchers	An innovation created by experienced practitioners	Innovation created by special inventors and designers

Innovations created by researchers will be focused on improving them through the study of theory and practice. This is done in two directions: by private initiative and by government order, as a result of allocating a certain amount of grants.

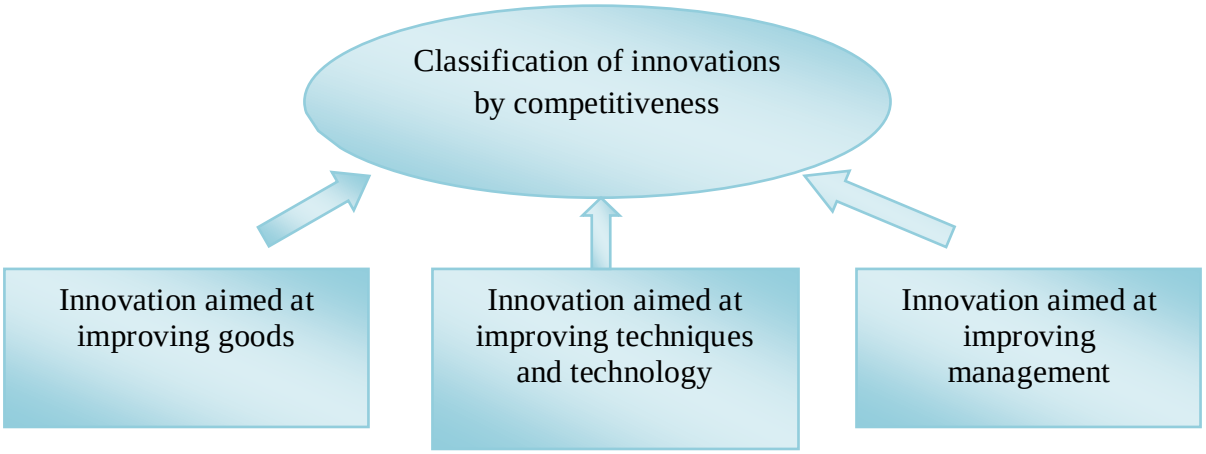

Figure 1. Classification of Innovations by Competitiveness [7]

The relationship between innovation and competitiveness factors can be summarized as follows (Figure 1).

If we look at the above innovations from the point of view of ensuring the competitiveness of business entities, this issue is important not only for the domestic but also for foreign markets. The quality of goods (works, services) does not increase by itself. This requires the introduction of new advanced techniques and high technologies.

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It is necessary to classify current innovations in terms of their economic content in terms of expanded production links. Because the faster production expands, the faster the economy grows. As a result, it is impossible to accelerate one phase of expanded production and leave the rest. Because of this, it requires accelerating its entire phase. This, in turn, requires the classification of investments on this basis. This, in turn, requires the classification of investments on this basis.

Our research shows that investments in this category fall into four groups. This includes:

-investment for production;

- investments for distribution;

-investment for exchange;

- investment for consumption.

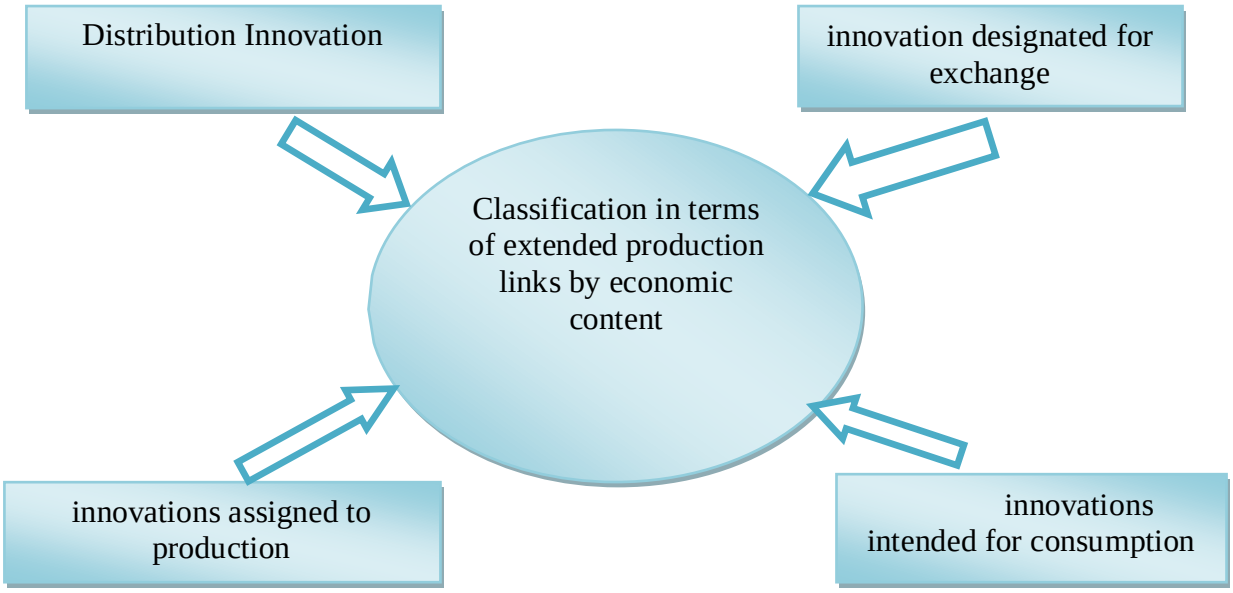

Figure 2. Classification of innovations by economic content in terms of expanding production links

The classification of innovations by their economic content from the point of view of extended production ties can be expressed as follows (Figure 2).

Innovation is also classified in terms of economic content in terms of expanding production linkages. The first is consumer innovation.

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The classification of innovations by industry also ensures the appropriateness of this work. Since each network is different, these functions require a separate approach to each of them. For example, innovations that can be introduced into industry cannot be introduced into agricultural enterprises. Neither trade in the financial sector nor other services can be invested. Therefore, we recommend that this group of innovations be:

- investments for industry;
- investments for agriculture;
- investments for the transport sector;
- investments for trade;
- investments for the financial sector;
- investments for other types of services;

When classifying innovations by industry, their relationship can be expressed as follows (Figure 3).

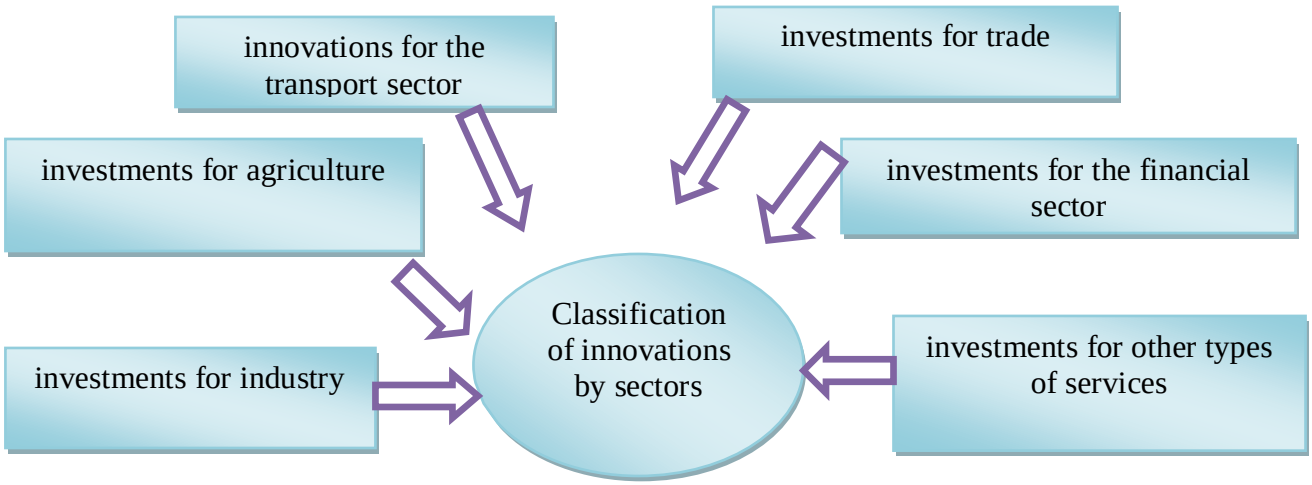

Figure 3. Classification of innovations by sector

The importance of categorizing innovations by sector depends on the specifics of each sector. Industry-specific innovations enable the modernization of technical and technological processes in this area.

Today's innovation process management system is flexible and complex. He is responsible for a number of tasks, such as introducing products into production, reorganizing organizational structures and management functions, introducing

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innovations, and the ability to manage innovation processes from start to finish. The central service system, which prepares and implements new product projects, coordinates innovation processes, ensures the implementation of a unified technical policy, and controls innovation. Departments working with new products are relatively independent structures, the main task of which is to coordinate all innovative processes in the organization, goals and directions of technical development, development of innovation activities and work plans, development of new products at the project level. monitoring before implementation, discussion of design documentation for new products.

Conclusions and recommendations

Special groups for conducting research based on targeted projects, creating and introducing new products into production are relatively independent organizational structures, the main task of which is the preparation, development, implementation of innovative projects and the development of new products on a large scale. that the implementation processes are carried out in an integrated manner.

Formation of innovative analytical strategic centers that ensure the adoption of strategic decisions during the entire period of scientific processing associated with the problem of integrating science, production and the market. Implementation of foreign economic relations in the field of scientific, scientific, technical and innovative activities, the implementation of large innovative programs and projects. Innovative development requires special attention to resource provision in an integrated way and the continuity of the economic system. In the transition to the innovative development of the economic system, the factors of internal self-development are a prerequisite for the effectiveness of economic stability. Develop and implement a new product. When a product is added to an ideal assortment with new features, production and distribution, it is commonly referred to as a new product. Improvements to existing products are not included. It can be a new product or a fundamentally new product, or a combination of new mechanisms and tips without changing the product itself.

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- the goals of the innovation process;

- definition of a new technical solution for the invention.

- research and development.

- start serial production.

- organization of parallel training and sales.

- launching a new product on the market.

Strengthen their new market position by improving the competitiveness of products and improving technologies.

The main stages of the innovation process:

1. Systematization of incoming ideas: collection of information from the marketing services of production departments, sales staff of the firm, sales agents, current consumers on news and technological developments in the markets: determining the size and level of risk, creating a new product and gathering information about the firm's potential for development; gather information on target markets and long-term trends in their development.

2. Identify the idea and develop a new product idea:

- identify the feasibility of the idea in practice;

- The level of technological commonality of new and traditional products

- identification;

- the firm, ie the suitability of the product and its strategic

- development;

- Defining a patent system for a future product.

3. Analysis of the cost-effectiveness of a new product, development of a marketing program:

- Once the idea has become a concrete project, the technical condition of the product

- create a state;

- Determining the technical and economic characteristics of the product. Evaluate its quality and consumption characteristics;

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- assessment of sales volume and potential market supply;

- creation and development of new management and identification of costs (investments);

- Availability of necessary resources for the production of new products: technological machines and equipment, raw materials, personnel, financial resources;

- development of a new product and timing of its launch;

- Analysis and evaluation of the profitability of new products, development of a marketing program for the product.

Creating a new product: creating a clear program for the development of a new product with the division of responsibilities into departments of the firm; product design and technical selection.

Let us now consider the directions of conceptual development according to the above classification criteria of innovation (Figure 4).

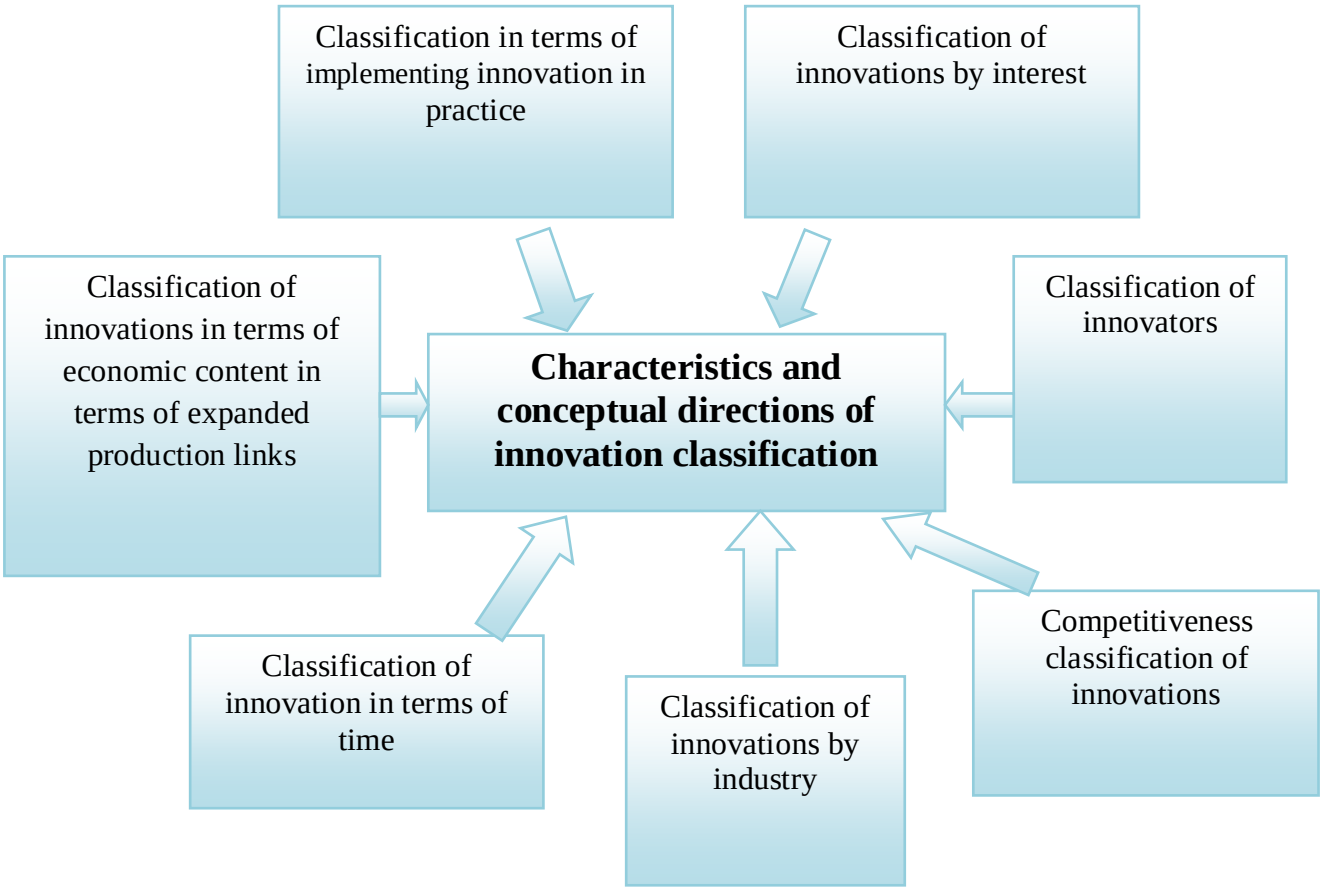

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Figure 4. Classification and conceptual directions of innovation classification.

The issue of production efficiency and its increase has always been a topical issue in the economy. Especially now, when our country is modernizing and diversifying, this issue is becoming more acute. This is due to the fact that without increasing the efficiency of production, it is impossible to fulfill the important task facing our country - the task of accelerating independent economic development.

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