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#### ИССЛЕДОВАНИЕ СУЩЕСТВУЮЩЕЙ МЕТОДОЛОГИИ Стоимостной оценки и методов оценки ставки дисконтирования

Раскрыта экономическая сущность справедливой и приведенной (дисконтированной) стоимости и исследованы их использования в Международных стандартах финансовой отчетности. Предложен алгоритм выбора методов оценки справедливой стоимости с использованием дисконтирования. Проанализированы существующие подходы к оценке ставки дисконтирования и предложены формулы расчета ставки дисконтирования для обоснованного отражения в учетной политике предприятия.

**Ключевые слова:** алгоритм выбора методов оценки справедливой стоимости, оценка ставки дисконтирования, расчет ставки дисконтирования.

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# FORMATION OF A SCIENTIFIC APPROACH TO FUNCTIONING AS A PROCESS OF DEVELOPMENT OF INNOVATION-ORIENTED ENTERPRISES

Науково обґрунтовано теоретичні засади функціонування як процесу виконання економічних функцій суб'єктами господарювання, який і є основою розвитку як інноваційно орієнтованих підприємств, так і системи його економічних контрагентів. Розкрито науково-методологічні засади оперування розвитком інноваційно орієнтованих підприємств. На прикладі інноваційно орієнтованих підприємств машинобудування розкрито економічні функції, забезпечення виконання яких має реалізовуватись через оперування розвитком.

**Ключові слова:** економічні функції, функціональність інноваційно орієнтованих підприємств, оперування розвитком.

### **1.** Introduction

Traditional consideration of the development of innovation-oriented enterprises as a process of change in order to achieve a strategic goal does not take into account the problems of its provision in conditions of unstable economic conditions. Insufficient validity of functioning as an operational development process negates its importance in the systematic implementation of economic functions to ensure a high level of economic status. This actualizes the need for the formation and scientific substantiation of functioning as a process for the development of innovative enterprises.

## 2. The object of research and its technological audit

*The object of research* is considering the functioning of the development process of innovation-oriented enterprises in changing, turbulent economic conditions.

The study of the processes of functioning and development is mainly considered by scientists apart. The justification of the theoretical foundations and methodological provisions for development is oriented to a longterm perspective, and functioning for a short-term period. One of the most problematic places is the lack of available scientific approaches to the implementation of operational measures to develop innovative enterprises in the process of functioning.

### 3. The aim and objectives of research

*The aim of research* is formulation and substantiation of a scientific approach to the consideration of functioning as a process of developing innovation-oriented enterprises through the performance of economic functions.

The task by which the aim is achieved:

1. To substantiate the essence and scientific bases of functioning as a process of development of innovationoriented enterprises.

2. To develop the concept of the functionality of innovation-oriented enterprises, as an ability to realize the functional purpose, contributes to its own development and ensuring the development of subjects of economic relations.

3. To substantiate the organizational and economic basis of operating with the development of innovative enterprises and key concepts.

4. To disclose economic functions, the enforcement of which is realized through the operation of development in the process of functioning.

# 4. Research of existing solutions of the problem

Methodological issues of functioning and development are revealed in the research of many scientists. In particular, in the context of their contradictions, it is considered that the existence of an organization in the short term is provided by functioning, but in the long term, for these purposes, the processes in their development are necessary [1]. In the context of interconnection, the process of functioning of an enterprise is determined by a part of the development process [2]. At these stages, the strategic goals defined at the development stage are realized through the development and achievement of current [3]. It is believed that the production and economic system of the enterprise exists while it is functioning, it is still working [4]. Scientists actively study models of sustainable functioning and development [5]. In particular, these are models of sustainable entrepreneurship [6], assessing the sustainability of industrial enterprises based on a real alternative dynamic model of managing generations of innovations [7]. And also the business model of innovation to ensure sustainable operation and enterprise development [8]. On the other hand, development is revealed as a change in activity for the transition to a higher qualitative level of the performed functions, the structure of the organization [9], the wealth and assimilation of a new quality or function [1]. Scientists also focus on multivector development, justified by the need to anticipate the dynamic changes in the functioning environment instead of adaptation [10]. However, the scientific justification of functioning, realized as a process of operational development requires in-depth studies.

#### 5. Methods of research

The methodological basis for investigating the solution of the posed problems was general scientific and special methods of analysis and synthesis, systematization, abstraction, logical generalizations, and concretization.

#### 6. Research results

Development of the enterprise one should understand the special state of functioning, ensure economic evolution and enhance the ability to perform a functional purpose. The study of theories of economic, organizational and innovative development [11-17] makes it possible to identify the basic principles that can be laid in the basis of the functioning of innovation-oriented enterprises as an operational development process. These include:

 use of production factors that can provide an innovative basis for development;

- balancing of economic relations with stakeholders;

- orientation to the dominant subject of the real sector

of the economy, which forms the innovative foundations

of functioning and development;

 implementation of innovative activities at each stage of the life cycle of the enterprise;

 formation of the structure of an enterprise capable of achieving developmental targets, through the leveling of asymmetry in the level of development of its educational components;

- application of advantages of economic activity of higher technological structures;

implementation of innovative productions based on collaborative economic relations;

- implementation of innovative development in the ecosystem of functioning.

At the same time, the analysis of the theoretical and methodological foundations of functioning provided an opportunity to show the basis of innovation-oriented development in the production of functioning:

- application of agency relations in the innovation sphere. In the theory of agency relations, the owners (the principal) form the aggregate of agents for the functioning and development of the enterprise [18, 19];

- use of self-learning organization tools. According to the concept of organic development, the evolution of the organization is possible with constant training [14], and according to the theory of the self-learning organization, continuous training of workers occurs in it, new methods of thinking are formed [20];

- combination of material and non-material resources, the use of unique abilities. The operation of the enterprise should be based on such key aspects:

1) uniqueness of the resources of each individual production and economic system [21];

2) use of organizational abilities that accumulate during the functioning of the organization – specialized knowledge, skills, experience used in activities [22];

- activation of entrepreneurial innovation activity for the synthesis of knowledge and abilities. The functioning of the enterprise occurs when the flow of physical resources changes to information and knowledge flows [23], which are provided by entrepreneurship [24];

- creation of the functioning of the enterprise through the implementation of functions agreed with the development processes. The methodological basis of the enterprise's functioning is formed within the systemfunctional theory of the firm [25, 26]. According to it, the enterprise is defined as a complex socioeconomic system of hierarchical and subject-market relations, as a unity of extensive (exists in space) and intensive structures (exists in time) [25, 26]. The concept of «functioning» is interpreted as performing functions, acting [27]. As is known, the function is considered [28]:

1) activity, the role of the object within a certain system to which it belongs;

2) type of connection between objects, when a change in one of them causes a change in the other, while the second object is also called the function of the first [28]. The function of the enterprise is interpreted as a kind of specialized activity, it is singled out in the process of its interaction with the external environment [29]. Scientists distinguish such functions of enterprises [30–32]:

- social and educational;

educational;

development of macroeconomic and microeconomic stabilization;

– system;

- budgetary;
- production;
- marketing and sales;
- investment and financial;
- research and development;
- innovative;
- consolidating;
- maximization of shareholders' well-being;

ensuring the interests of participants in the business process;

- creation of value for all stakeholders.

In accordance with the provisions of the Kleiner system integration theory of the enterprise, the functioning of the enterprise occurs in the process of transmitting the interaction of the layers (subsystems) of the enterprise both with each other and with the external environment for the generation and exchange of knowledge [33]. That is, the functioning of an innovation-oriented enterprise is based on a complex of functions of various orientations, reflecting its functional purpose in its own development and in ensuring the development of economic entities, namely:

1) functions aimed at ensuring the productive operation of the enterprise. Such functions include: application of innovations in the production of natural products, ensuring the efficiency of the enterprise's operation based on the introduction of an innovative component of each of its structural components, increasing the economic ability to implement basic and innovative activities inseparably from each other;

2) functions of partnership with subjects of economic relations (the implementation of after-sales services, the provision of long-term relationships on the basis of partnerships in the development of new products with customers and stakeholders in the implementation of innovative projects);

3) functions aimed at satisfying the economic interests of the owners of the enterprise (increasing profitability, enterprise costs, etc.);

4) functions aimed at fulfilling the appointment of the subject of the economy (increasing the volume of payments to the state budget, creating new jobs, implementing economic relations in the market environment, developing the national economy).

The term reflecting the ability to use certain functions, the suitability of a particular object to perform certain functions and their correspondence to certain needs is called functionality [34, 35]. Thus, the functioning of the enterprise

is realized through the ability to fulfill the functional purpose both by all structural components of the enterprise and by the ability of the enterprise itself to influence the development of the system of economic relations through partnership interaction. The implementation of complex internally external functions takes place through horizontal partnerships that arise in production systems, financial and investment provision, management of economic relations. For the purpose of investigating functional interactions both at the enterprise level and in the system of interbusiness interaction of an innovation-oriented enterprise, the use of enterprise structuration in the form of economic systems (ecosystems) makes it possible to delineate the boundaries of the realization of each of the functions. Large industrial enterprises, such as machine-building enterprises, are a technological and technological platform for the economic modernization of the real sector of the economy, can be considered an ecosystem. Such ecosystem is formed by the functional environments of the production, management and financial investment component, formed according to the principle of delineating the boundaries of the environment for the performance of their functions as each of the factors of production, and each type of relationship. The complex of economic functions of providing, reproduction, extended and innovative reproduction and obtaining economic returns form the phase of the functioning of the enterprise, determines the position of the enterprise's ecosystem in the development stage. Thus, the development of the enterprise is ensured by the complex implementation of economic functions that affect the achievement of the target level of economic returns, reflecting the aggregate of economic results obtained through the satisfaction of economic interests and the needs of the subjects of relationships.

Functioning is also seen as a mode of vital activity, which, under stable conditions (unchanged or those that do not change significantly), ensures stable operation of the system (in a given mode, according to given parameters) with its unchanged goals [36]. Under the mode of vital activity of an organization are understood features, specificity of work at different stages of life of the organization, which types belong not only to stable (stationary) functioning, but also growth and development [37]. That is, innovation-oriented enterprises can function in a development mode. Such regime is determined by a set of conditions of the innovative environment of functioning and the rules of operating with dynamic capabilities to implement innovative and economic production to achieve development targets. Hypothetically, the unity of the processes of functioning and development ensures the economic evolution of an innovation-oriented enterprise, development management is the controllability of its consequences, and the expanded management of functioning increases the level of economic functionality. This requires supplementing the concept of the functioning of such enterprises by the parameters of development at each stage of functioning, in fact is a mode of development. And also determines the need to use development to increase economic functionality in the performance of the designation of a functional system for the development of the real sector of the economy. In general, at the conceptual level of functioning of an innovation-oriented enterprise should be to implement a dynamic process aimed at ensuring economic functionality due to economic evolution that is ensured by the development in the process of production of innovations in economic activity.

So, functioning is not a simple process of the enterprise's activity, its production should be based on tactical and operational actions to fulfill the functions aimed at the current processes of ensuring development for the achievement of the long-term goal. At the same time, the enterprise should function in accordance with the established parameters of the economic state, which will ensure economic growth. That is, the functioning of an innovation-oriented enterprise should be viewed as a process of operational, systematic implementation of functions aimed at changing the economic state of an enterprise in order to achieve the target development targets.

In general, functioning as an operational process for development of innovation-oriented enterprises occurs in the case of a combination of the characteristics of the current functioning and the observance of key conditions that together constitute the organizational and economic basis for operating development in the process of functioning (Fig. 1).

Traditionally, the driving force of strategic development is potential (competitive, innovative, economic, resource, etc.), it provides the ability to implement a development strategy. When considering the functioning as an operational process of enterprise development, such force is the economic force of development. This force is acquired through the systematic increase in the level of the economic state of the enterprise and reducing its deviations from the target for balanced economic growth, creating the economic ability to implement further organizational and economic measures of innovation-oriented development. The difference between the implementation of the strategy and the development of the operation in the process of functioning lies in the implementation. Strategic development is provided by phased implementation of tasks aimed at achieving a long-term goal. Operational development is through the regulation of economic activities in accordance with the change in the manageability of economic results. This involves a systematic definition of reacting to changes in profitability, growth in the value of the enterprise and

> other on economic production for the reconstruction, extended and innovative reproduction of suitable fixed assets, intangible assets, financial and investment provision, development of economic relations with customers and stakeholders. The result of the strategy development can be considered the economic situation at the time of implementing the strategy of the enterprise. In the case of operating development, this result is a change in the economic situation in the direction of the development target.

> > Table 1

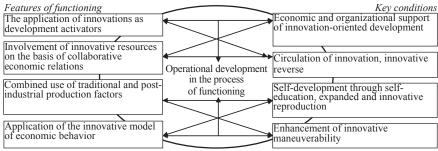


Fig. 1. The organizational and economic basis for operating the development of an innovation-oriented enterprise (compiled by the author)

Directly operating with development is the process of systematic operational and tactical economic actions of a company's skimming on development, which requires other approaches to its implementation than traditional strategy. According to scientific works, strategy is defined as forecasting, planning and implementation of the future, provides for the use of all three blocks of the classical model of the strategic management system [38]. The strategy is viewed as a triad of management tools at the tactical, operational and strategic levels [39] and as a set of procedural actions for the development of strategy and regulation of its parameters, if necessary [40]. Such process is the only system that includes strategic goal-setting, forecasting, designing, programming, planning, communicative foresighting, situation analysis and analysis of the consequences of action in a situation, strategy implementation and controlling.

On the basis of the strategy, the achievement of the established forecasted strategic results is achieved in the long-term period, and the criterion for the enterprise development is reflected in the level of achievement of the strategic goals (Table 1).

The strategic targets are established based on the forecasting of the indicators corresponding to them. The criterion of development when dealing with it in the process of functioning of an innovative-oriented enterprise should be considered the fulfillment of economic functions within the target development targets, determined by changing the indicators of the economic state. At the same time, the development targets are established on the basis of the results of their achievement in changing and unstable operating conditions.

# Comparative analysis of the development strategy and operation in the process of functioning \*

Components of characteristics	Strategy	Operational development in the process of functioning
Development criteria	Achievement of predicted economic results in ac- cordance with strategic goals	Fulfillment of economic func- tions and economic returns within the target development targets
Establishment of development targets	Based on the forecasting of the goals of achieving	Based on the results of their achievement in changing and unstable operating conditions
The driving force of development	Potential	Economic power of develop- ment
Implementation process	Implementation through adjustments to economic activities to achieve stra- tegic results	Realization through the regu- lation of economic activities in accordance with the change in the manageability of cur- rent economic results
Result of development	The economic situation at the time of the strategy implementation	Change in economic situation towards development targets

Note: \* compiled by the author.

On the basis of the conducted research, the problemoriented economic functions that are significant for development (Fig. 2) are revealed using the example of innovative machine-building enterprises.

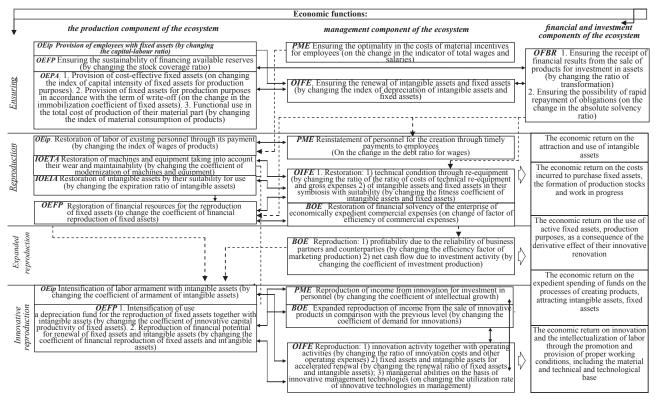


Fig. 2. Infologic scheme of economic functions of an innovation-oriented machine-building enterprise subject to intensification of implementation to improve economic returns on the production component (compiled by the author)

In particular, effective implementation of economic support functions for increasing economic returns on the production component of the enterprise ecosystem requires a set of actions:

1) on the operating environment industrial and production personnel (OEip) – to ensure the growth of labor fundability;

2) operating environment the financing of production (OEFP) – an increase in the value of the coverage ratio of reserves due to an increase in their turnover;

3) on the operating environment of production assets (OEPA) – a reduction in the shareholding cost of fixed assets of production, increasing immobilization of fixed assets, reducing the material consumption of products.

In the management component of the ecosystem, in order to increase the economic return on the production component, it is necessary:

measures to reduce the overall salary of products;
reduction of depreciation of intangible assets and fixed assets to improve the functionality of the personnel management environment (PME) and the environment for operating innovative favored environment (OIFE).

For the financial and investment component – an increase in the ratio of transformation and total liquidity, the dynamics of which reflect the fulfillment of economic functions of the environment of operating financial business relations (EOFBR). In order to activate the proper performance of the playback functions in order to ensure the development of innovative machine-building enterprises, it is necessary to improve the functionality of the media. In particular, the innovative operating environment tangible assets (IOETA) on the basis of updating fixed assets through modernization, the innovative environment for operating intangible assets. For OIFE it is expedient to accelerate

the renovation of fixed assets in symbiosis with intangible assets, the direction of expenses for technical re-equipment. The implementation of the functions of innovative reproduction by the management component provides for an increase in the coefficient of intellectual growth (the personnel operating environment (PME)) and the demand for innovation (Business Operating Environment (BOE)).

The economic functions of innovative reproduction, which are subject to intensification in order to increase the economic returns of the managerial component of the innovative machine-building enterprise, are shown in Fig. 3. The environment of the financial and investment component of the ecosystem requires the activation of the fulfillment of the economic functions of innovative reproduction. To increase the functionality of the EOFBR in the development of an enterprise, it is necessary to increase the volumes of highly liquid assets, the operating environment for domestic financial and investment support (OEDFIS), increase expenditures on the purchase of technologies, machinery, equipment, and increase intellectual capital. To increase the effectiveness of the implementation of economic functions in the environment of operating financial and economic security (OEFES), it is advisable to increase reserve capital and retained earnings. That is, in accordance with the need for an increase in the ratio of the ability to insure innovation, which is calculated in relation to the amount of reserve capital and retained earnings to the sum of the residual value of intangible assets and expenditures for innovation. Functions of reproduction and expanded reproduction lie in the plane of the operating environment of investment partnerships (OEIP).

An increase in economic returns on the financial and investment component of economic returns is characterized by a certain cascading performance of economic functions (Fig. 4).

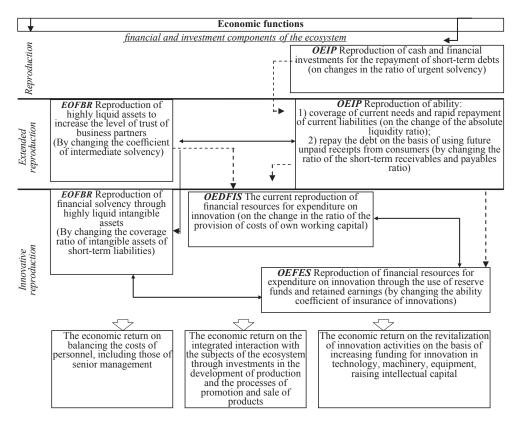


Fig. 3. Infologic scheme of economic functions of the innovation-oriented machine-building enterprise, subject to intensification of implementation to improve the economic returns on the management component (compiled by the author)

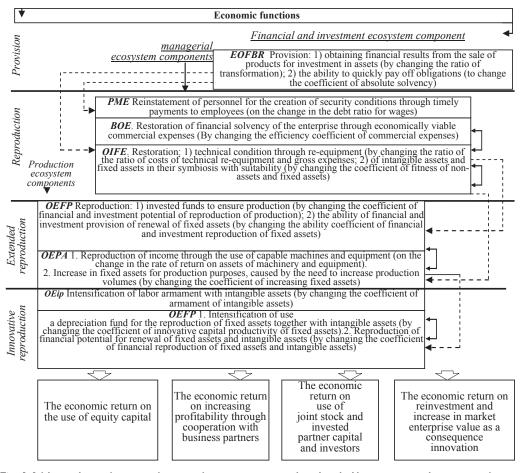


Fig. 4. Infologic scheme of economic functions of an innovation-oriented machine-building enterprise subject to intensification of implementation to improve economic returns on the financial-investment component (compiled by the author)

On the security phase, there is a need to be active in the performance of economic functions to designate the environment for operating financial business relations (EOFBR) to ensure the possibility of rapid repayment of obligations. On the phasing of reproduction – the management component of the ecosystem of the enterprise due to prejudice of payroll arrears, the implementation of economically viable commercial costs and the costs of technical re-equipment. On the phase of expanded and innovative reproduction – the economic functions of the production component of the ecosystem. This is determined by the specific functioning of the investigated enterprises.

So, operating the development of innovative enterprises through monitoring the appropriate level of performance of economic functions will affect the growth of their economic development force that will also ensure the growth of economic returns when interacting with the subjects of economic relations in the process of functioning. That is, through their economic activities will be ensured the development of other enterprises.

#### 7. SWOT analysis of research results

*Strengths*. The strength of research is the scientific justification of a new approach to the consideration of functioning not as a process of life activity, but as a process of operational development of innovation-oriented enterprises.

*Weaknesses.* The weak side is that the effective performance of economic functions as the basis for development of innovative enterprises does not always depend directly on the ability of the enterprise, but includes interrelated activities with economic agents.

*Opportunities.* Opportunities for further research are the development of applied tools for the implementation of the functioning of innovation-oriented enterprises as a process of their development.

*Threats.* Threats to the results of the conducted researches are that the implementation of scientific approaches to functioning as an operational development process is appropriate in changing, turbulent economic conditions.

#### 8. Conclusions

1. The conducted research allows to consider the development of the enterprise as a special state of functioning and the functioning of an innovation-oriented enterprise by the process of operative, systematic implementation of functions aimed at changing the economic state in order to achieve the target development targets. In the implementation of the process of the functioning of enterprises it is necessary to lay the scientific and methodological foundations of innovation-oriented development.

2. It is shown that the functioning of the enterprise is based on a complex of functions in accordance with its functional purpose in its own development and in ensuring the development of subjects of economic relations, expressed in functionality.

3. It is substantiated that functioning as an operational process for development of innovative-oriented enterprises occurs in the case of a combination of characteristic features of the current functioning and compliance with key conditions. The development criterion at the same time is the fulfillment of economic functions and the achievement of economic returns within the target development targets, the driving force of development is the economic power of development, acquired through a systematic increase in the level of the economic state of the enterprise. Operational development in the process of functioning can be carried out by the regulation of economic activities in accordance with the change in the manageability of current economic results.

4. The conducted research on the example of innovationoriented machine-building enterprises makes it possible to identify problematic economic functions that are significant for development. Ensuring the effectiveness of these functions is realized through operating with development in the process of functioning to change the economic state of enterprises in the direction of the targets.

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#### ФОРМИРОВАНИЕ НАУЧНОГО ПОДХОДА К ФУНКЦИОНИРОВАНИЮ Как процесса развития инновационно ориентированных предприятий

Научно обоснованы теоретические основы функционирования как процесса выполнения экономических функций субъектами хозяйствования, который и является основой развития как инновационно ориентированных предприятий, так и системы его экономических контрагентов. Раскрыты научно-методологические основы оперирования развитием инновационно ориентированных предприятий. На примере инновационно ориентированных предприятий машиностроения раскрыты экономические функции, обеспечение выполнения которых должно реализовываться через оперирование развитием.

**Ключевые слова:** экономические функции, функциональность инновационно ориентированных предприятий, оперирование развитием.

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