

## WORLD EXPERIENCE AND UKRAINIAN PRACTICE OF IMPLEMENTING HIGHER EDUCATION INSTITUTIONS' MODELS ACCORDING TO THE PRINCIPLES OF SUSTAINABILITY IN THE DIGITALIZATION CONDITIONS

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### Abstract

The article considers the main aspects of implementing the principles of sustainable development in the process of managing higher education institutions in the context of digitalization. The purpose of the article is to develop conceptual provisions for implementing models of higher education development based on the principles of sustainability in the context of digitalization of society according to the existing practices and world experience. The main models of development of higher education institutions have been analyzed. It has been announced the Concept of development of higher education institutions based on the principles of sustainability, which is being formed simultaneously with the implementation of sustainable development priorities in the socio-economic sphere, and the main prerequisites for its implementation have been determined. The purpose of the model is to form skills adapted to the changing conditions of society's functioning in the context of meeting the social, environmental, and economic needs of an individual and the state. The model of development of higher education institutions according to the principles of sustainability is based on taking into account the following factors: the available capabilities and resource deficit of the educational institution; the opportunities for public participation in managing the educational process and establishing an effective communications system. The main components of the model of sustainable development of higher education institutions have been determined. The structure of the mechanism for managing higher education institutions based on the principles of sustainability and the principles of implementation has been substantiated. The structure of the mechanism for managing higher education institutions according to the principles of sustainability is determined by: the nature and characteristics of sustainable development and the place of digitalization in the implementation of sustainability conditions; the specifics of the development of educational and scientific activities of a higher education institution and the conditions of administration; the possibility of obtaining a synergistic effect as a result of the interaction of the motivational, regulatory and economic components of the mechanism. The Strategy for managing the development of a higher education institution based on the principles of sustainability has been proposed.

**Keywords:** Educational Service, Educational Process, Management of a Higher Education Institution, Management Model, Strategy, Sustainable Development, Digitalization, Border Universities.

**JEL Codes:** I20, I21, O15.

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## **Introduction**

The functioning of the modern education system is based on the quality of educational services, depends on the needs of the national and regional labor markets and is based on the establishment of effective interaction between participants in the educational process: both educational institutions and consumers of services. This interaction is characterized by the presence of a synergistic effect from the process of developing an educational service, its implementation and dissemination and further application of the acquired knowledge. The importance of the education system for society is confirmed by significant attention from the state and the corresponding regulatory influence. World practice testifies to differentiated approaches of public authorities to the regulation of the educational sphere, depending on socio-cultural characteristics, social values and guidelines. Determining the optimal model of state regulation and promising measures of intervention in the activities of the education system requires taking into account the competition of the market of educational services, the level of security of the market environment, financial capabilities, and the functional capacity of state institutions.

The formation of the national education system took place under the influence of the peculiarities of the state system, namely the interaction between the regional and state levels and horizontal relations between the legislative and executive authorities with a clear distribution of powers and responsibilities. The current stage of development of the education system, which is marked by difficulties associated with pandemic processes and Russia's military aggression, aims to unite the efforts of society and the state in solving the problem of providing quality educational services, digitalization and informatization of the educational process, and its transformation in accordance with European standards. The specification of the actions of state authorities in the direction of achieving this goal is to solve the problems of motivation of the teaching staff, the development of new approaches to assessing the quality of work, the possibility of forming an individual educational

trajectory, creating conditions for the comprehensive development of students and applicants for higher education.

## **Literature review**

Management of educational institutions, reforming the education system and studying the main aspects of its genesis is currently one of the priority areas of domestic scientific research, which is confirmed by numerous publications of leading scientists.

Scientists (Picatoste X. et al., 2025; Jeong Rok Oh et al., 2023; Muhammed Zein, F. A. et al., 2025; Espino-Díaz Luis et al., 2025) are investigating perceptions of the SDGs among Erasmus students, analyzing the development of universities according to the principles of sustainability, and proving the significant role of education in promoting the ideas of sustainability.

Within the framework of the research (Espino-Díaz Luis et al., 2025; Lan Huaihao, 2025; Shahzad Khurram et al., 2024; Jakubek P. et al., 2023), the impact of project-based learning on the awareness of the SDGs was analyzed, social responsibility in universities in the digital era was investigated, and the impact of e-learning technologies on the sustainable development of universities and public institutions was outlined.

Of interest are the articles (Xu Y. et al., 2024; Shaposhnykov K. et al., 2022; Sierra-García L et al., 2024), which analyze SD strategies in university education, investigate the academic quality of universities and its role in achieving the SDGs. It is also worth paying attention to the publications (Ličen S. et al., 2024; Bepalyy S. et al., 2024; Safonov et al., 2023), which consider strengthening sustainable higher education through digital technologies and analyze awareness of SD and integration in higher education.

However, the formation of the digital economy and the orientation of public administration processes to achieve the Sustainable Development Goals necessitates the search for modernized approaches and the development of new models for the development of the higher education system and the functioning of educational institutions.

The article is aimed at developing conceptual provisions for the introduction of models for the development of higher education on the basis of sustainability in the context of digitalization of society based on the study of existing practices and world experience.

### **Methodical approach**

The following research methods were used in the article:

- system analysis (analytical study of modern global trends in the development of universities according to the principles of sustainability);

- generalization (analysis of existing models of university development in the context of the implementation of the SDGs);

- comparative analysis (study of the main aspects of the implementation of the principles of sustainability in the process of managing higher education institutions in the context of digitalization);

- systematicity (the Concept of the Development of Higher Education Institutions on the Principles of Sustainability is considered);

- analysis and synthesis (the main prerequisites for the implementation of the Concept of the Development of Higher Education Institutions on the Principles of Sustainability are determined);

- grouping (the main components of the model of the SD of higher education institutions are determined);

- induction and deduction (the structure of the mechanism for managing higher education institutions according to the principles of sustainability and the principles of implementation are substantiated);

- content analysis and graphic (a Strategy for managing the development of a higher education institution according to the principles of sustainability is proposed).

### **Results**

Recently, the Sustainable Development Goals have become a key concept adopted for implementation by national governments, academic institutions and civil society as a whole. The process of achieving the Sustainable

Development Goals is reflected in the relevant strategic and program documents in accordance with the global criteria developed by the UN. social protection of the population and quality of life, quality public administration. In Ukraine, these provisions have not yet been widely implemented, despite the developed Sustainable Development Strategy Ukraine – 2020 and the current Strategy Ukraine – 2030, however, despite the crisis and military aggression of the Russian Federation, their popularity is growing.

An equally important trend that currently determines strategic public administration is digital transformation, which concerns both the global economy and the macroeconomic and microeconomic levels, regardless of the field of activity of enterprises and organizations. Digital transformation leads to a radical change in all management processes, from the process of implementing public administration decisions to the decisions of the management of the lower level of the organization's hierarchy. Thus, digitalization covers all branches of government and all areas of the national economy, and the developed digital environment has a positive effect on the implementation of the principles of sustainable development. As the well-known Canadian expert D. Tapscott notes in his works, the main features of the digital society are the digital form of presenting objects, virtualization of management, integration, convergence, elimination of intermediaries, transformation of the producer-consumer relationship. Thus, the advantages of the digital economy act as a tool for achieving the Sustainable Development Goals.

According to most leading researchers of the problems of the development of modern education, education management is the activity of state authorities and non-governmental organizations aimed at increasing the efficiency of the functioning of the education system as a social institution. At the same time, the following models of education are the most widespread in the world: European, American (both are also called rationalistic), traditional (the model of the post-Soviet countries) and Japanese (the model of developmental education). However, modern realities of social development on the basis of sustainability create new conditions for the

functioning of educational institutions and the formation of the market of educational services.

The formation of new models of development of higher education institutions should be based on the study of the experience of other countries. Thus, the experience of Germany allows us to distinguish the following models of development of higher education institutions:

- a model of state control, which is marked by a significant influence of state regulatory bodies and the simultaneous influence of the institution's management apparatus;

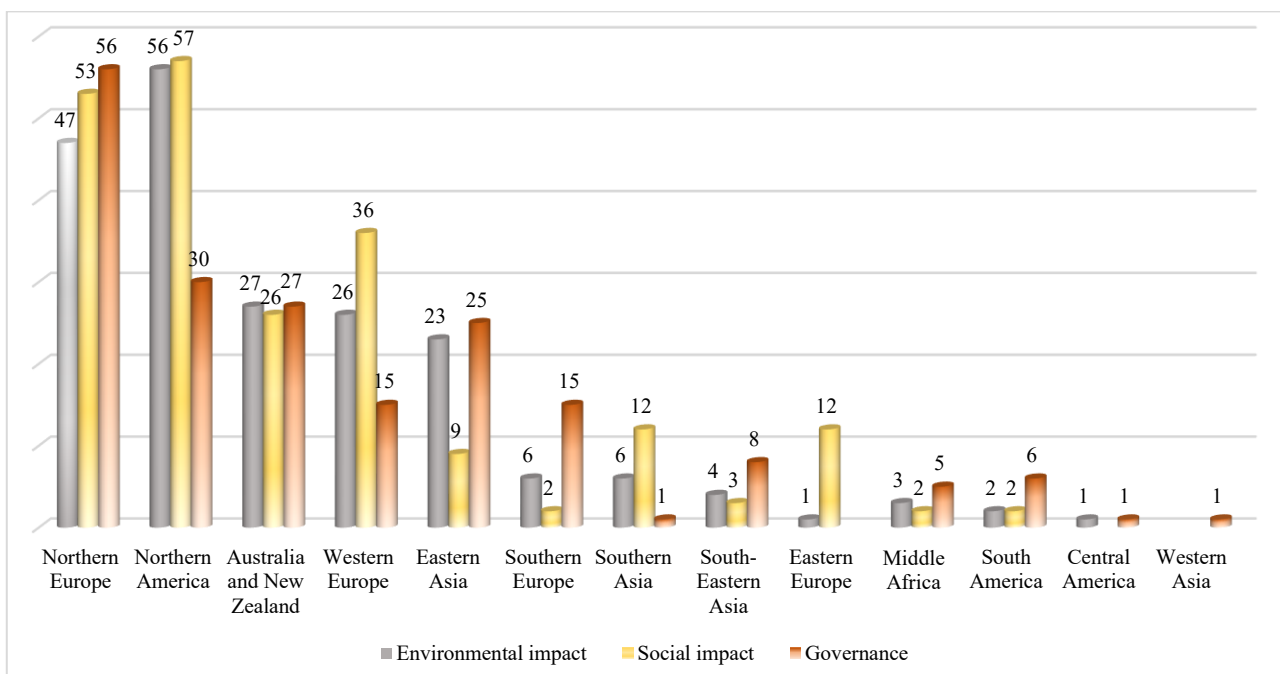
- model of state supervision – characterized by less influence of authorized state bodies and increased influence of the academic community of an educational institution;

- assessment model - the influence of the state is implemented by assessing the educational process, the quality of services and compliance with regulatory requirements.

The experience of Spain shows the cooperation of state bodies, autonomous communities and local government bodies with a predominance of decentralized influence.

Thus, in classical world universities, such as Oxford, Cambridge, the University of Sheffield (Great Britain), as well as the University of Pennsylvania (USA) and the University of South Wales (Australia), the model of a distance university based on one university with a form of offline education prevails. University. In Sweden, namely on the example of the Baltic University, another model prevails, characterized by the unification of several universities into a consortium with the possibility of attracting leading specialists. For example, on the basis of the Baltic University, there is cooperation in the provision of educational services of about 50 universities. In Australia, 9 universities have united in a similar consortium (Ifraheem S. et al., 2024).

Analyzing the ranking of sustainable development indicators of world universities QS World University Rankings: Sustainability 2025, the leading positions belong to universities of the Global North. In the top 200 universities, universities of North America, Europe, Australia and New Zealand confidently lead.



**Figure 1. QS World University Rankings: Sustainability 2025**

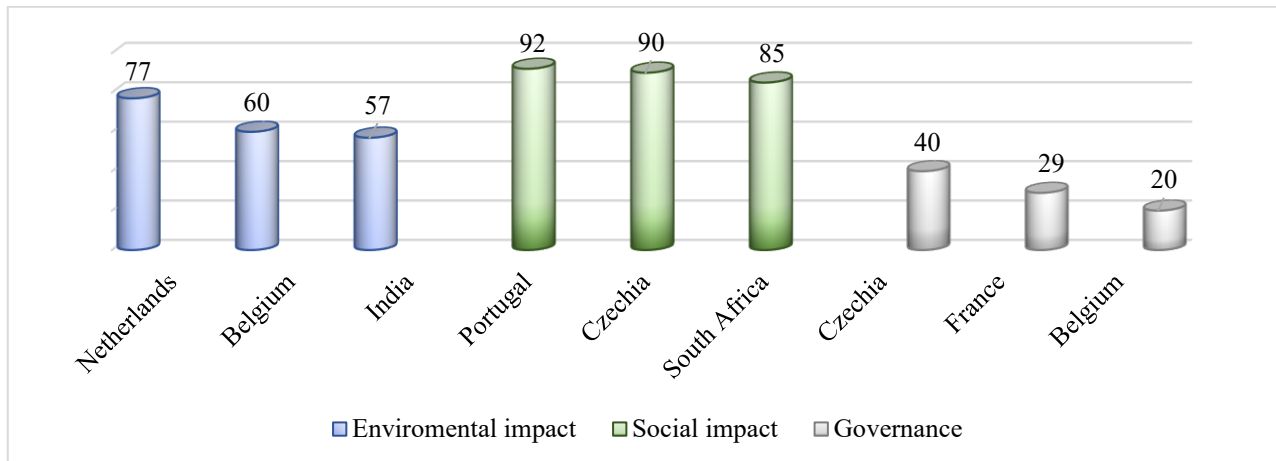
\*Source: <https://www.qs.com/insights/articles/qs-world-university-rankings-sustainability-2025-now-live/>.

Figure 2 shows the countries with the highest percentage of institutions showing

positive trends in sustainability indicators. 57% of the universities in the ranking improved their

environmental impact indicators, and 6 Indian universities made it into the top 200 universities for environmental impact. While 92 % of Portuguese universities improved their social impact indicators. It is also worth noting that the

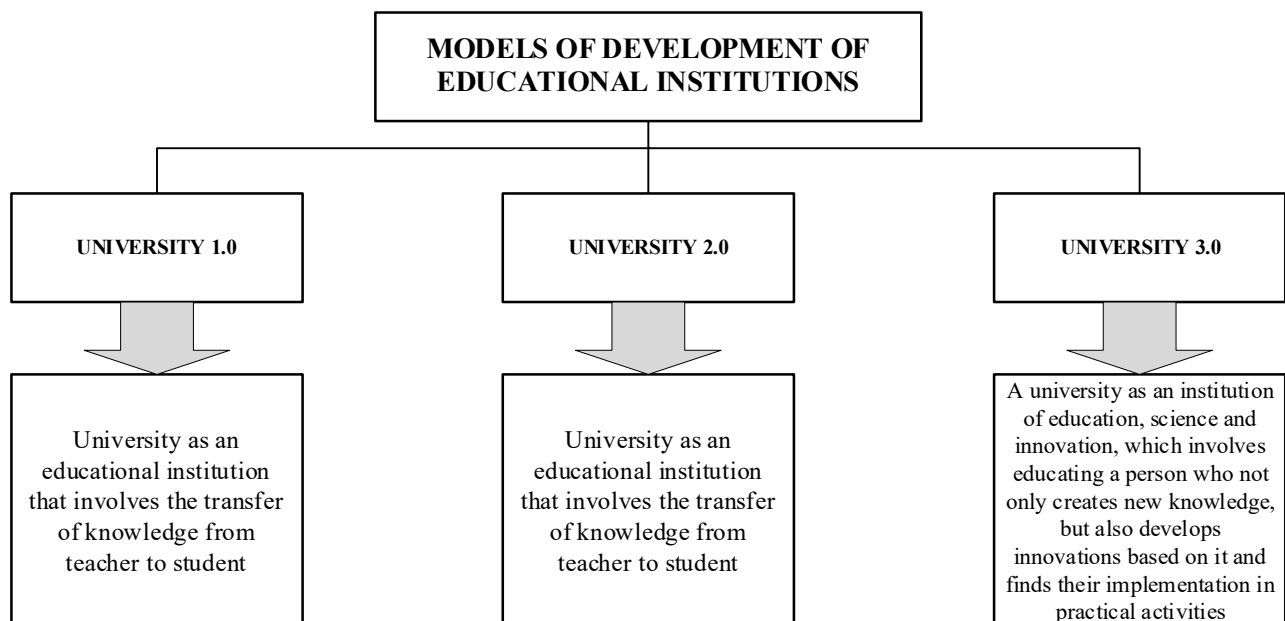
implementation of the Sustainable Development Goals and the introduction of the concept of sustainability in universities will be on the agenda of the QS Higher Ed Summit: Europe 2025, which will be held in Portugal.



**Figure 2. Share of universities that have improved their positions in the QS World University Rankings: Sustainability 2025**

\*Source: <https://www.qs.com/insights/articles/qs-world-university-rankings-sustainability-2025-now-live/>.

Taking into account the adaptation of the education system to the processes of development of society, the following models of development of educational institutions are distinguished (Figure 3).



**Figure 3. Models of development of higher education institutions**

\*Source: systematized by the authors on the basis of Ifraheem S. et al. (2024), Tsymbal L. et al. (2023).

The development of higher education in Ukraine is influenced by the organizational mechanism of public administration, which is based on the regulatory framework, which is based on the Law of Ukraine "On Education", the Law of Ukraine "On Higher Education" and the Strategy for the Development of Higher Education in Ukraine for 2022-2032. These documents form the main directions for improving the higher education system and the organization of the educational process, in particular, the Strategy takes into account the changes taking place in the country under the influence of transformations of social and economic life.

However, transformation processes and the simultaneous development of the digital economy dictate their own requirements for a modern and competitive education system. The concept of development of educational institutions on the basis of sustainability is formed simultaneously with the implementation of sustainable development priorities in the socio-economic sphere and the orientation of the public administration system towards the implementation of global goals, liberalization of the market of educational services in the context of the autonomy of higher education and the formation of competitive educational institutions. The purpose of the model is the formation of skills adapted to the changing conditions of the functioning of society in the context of satisfying the social, environmental and economic needs of an individual and the state.

Thus, the orientation of educational programs should take into account important trends in digitalization, namely: changes in the living conditions of a person as a member of the digital society, digitalization of the field of science and research, the introduction of digital technologies in the field of public administration, changes in labor market trends, the emergence of new competencies and professions. The factor of influence of digital technologies on the formation and development of ecosystems and their structure, the development of the real sector of the economy, new approaches to the formation of business models of companies, and clustering of

promising areas of economic activity should also be taken into account.

The model of development of a higher education institution based on the principles of sustainability, taking into account the directions of digital transformation, provides for compliance with the following conditions:

- the presence of a professional team of scientific and pedagogical workers who have a sufficient level of key competencies in the field of information technology and digitalization, as well as representatives of the public and business as stakeholders;
- readiness to implement the program of joint actions for sustainable development and digital transformation;
- a comprehensive description of the goals and objectives of the implementation of the development model;
- high-quality model implementation scenario;
- availability of key initiatives and pilot projects;
- availability of programs for the development of international cooperation of higher education institutions on sustainable development and digitalization;
- formation of research competencies in the field of sustainable development and digital transformations;
- integration of the new model with the Strategy for the Development of Higher Education in Ukraine for 2022-2032, sectoral strategies and government programs.

The model of development of higher education institutions according to the principles of sustainability is based on taking into account the following factors:

- available opportunities and resource deficit of the educational institution;
- opportunities for public participation in the management of the educational process and the establishment of an effective communication system.

As noted by domestic researchers of the model of sustainable development of higher education institutions, it is advisable to single out the following as the main components of the model:



- sustainable teaching – familiarization of applicants with the concept of sustainable development by including its main provisions and principles in educational programs, development of practical recommendations for the development of priority sectors of the economy during the preparation of final qualification works;

- sustainable research – implementation of scientific and technical projects initiated by higher education institutions in the direction of achieving global goals on the example of specific areas of economic activity;

- sustainable campus – introduction of energy-efficient technologies in the process of functioning of a higher education institution, creation of an eco-safe space, formation of environmental culture among higher education students and teachers and staff;

- sustainable partnership is the formation of partnership communications between groups of stakeholders in order to implement initiatives to achieve the Sustainable Development Goals with further monitoring of the results obtained and the achievement of the goals (Tsymbal L. et al., 2023).

The provision of educational services within the framework of this model is aimed at

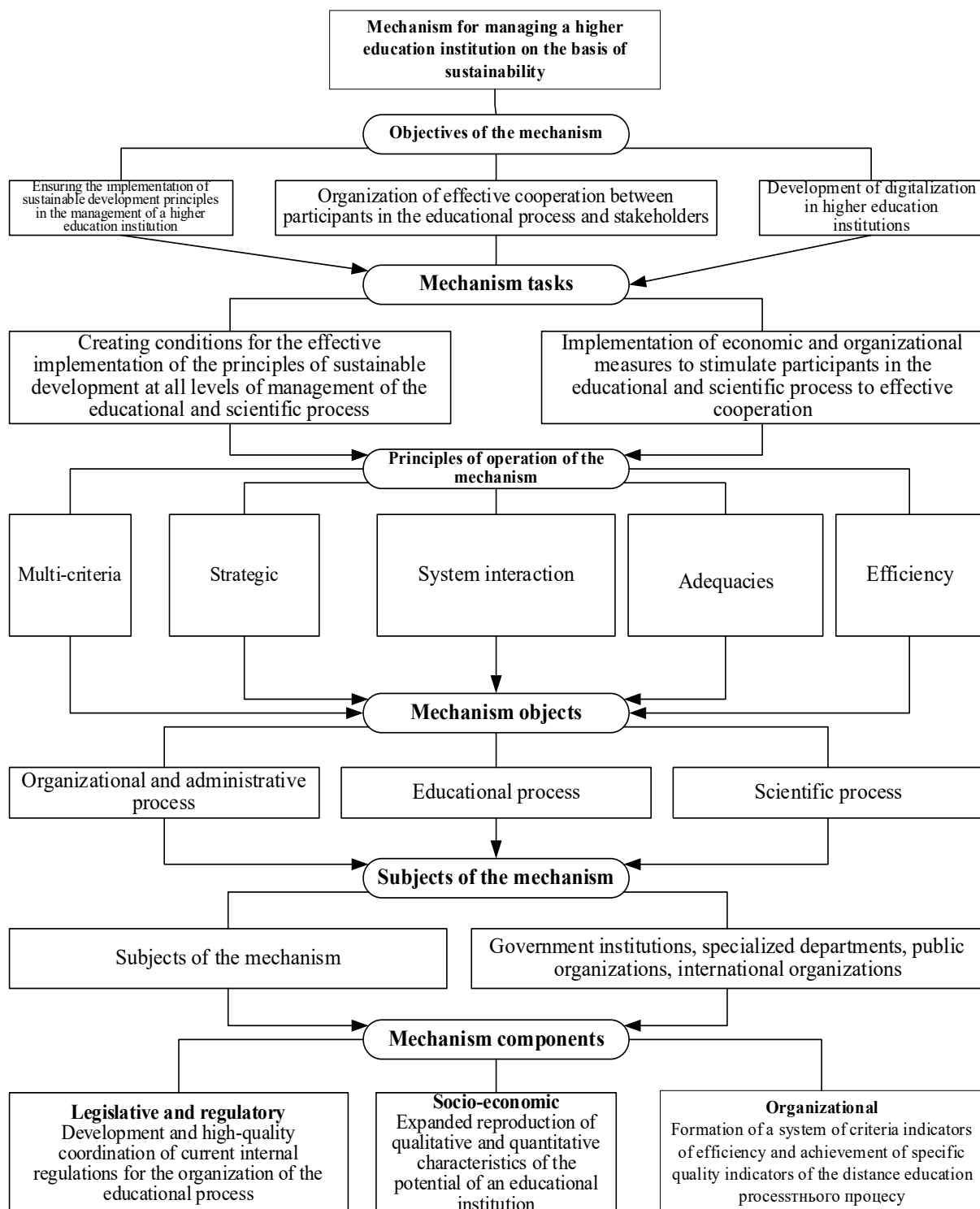
acquiring key competencies, knowledge and skills that should form an environmentally conscious society based on economic viability, environmental balance and social capacity (Tsymbal L. et al., 2023). The knowledge system should be built in the direction of forming values of economical use of natural resources, harmonization of relations between members of society, healthy lifestyle, gender equality.

The implementation of the model is possible under the conditions of development and implementation of new management mechanisms and tools. Thus, the structure of the mechanism for managing higher education institutions according to the principles of sustainability is determined by:

- the nature and characteristics of sustainable development and the place of digitalization in the implementation of sustainability conditions;

- the specifics of the development of educational and scientific activities of the higher education institution and the conditions of administration;

- the possibility of obtaining a synergistic effect as a result of the interaction of the motivational, regulatory and economic components of the mechanism (Figure 4).



**Figure 4. Logical and structural scheme of the mechanism of management of higher education institutions according to the principles of sustainability**

*\*Source: proposed by the authors.*

The main principles of the implementation of the improved mechanism for the management of higher education institutions in the context of the processes of sustainability and digitalization are proposed in Table 1.



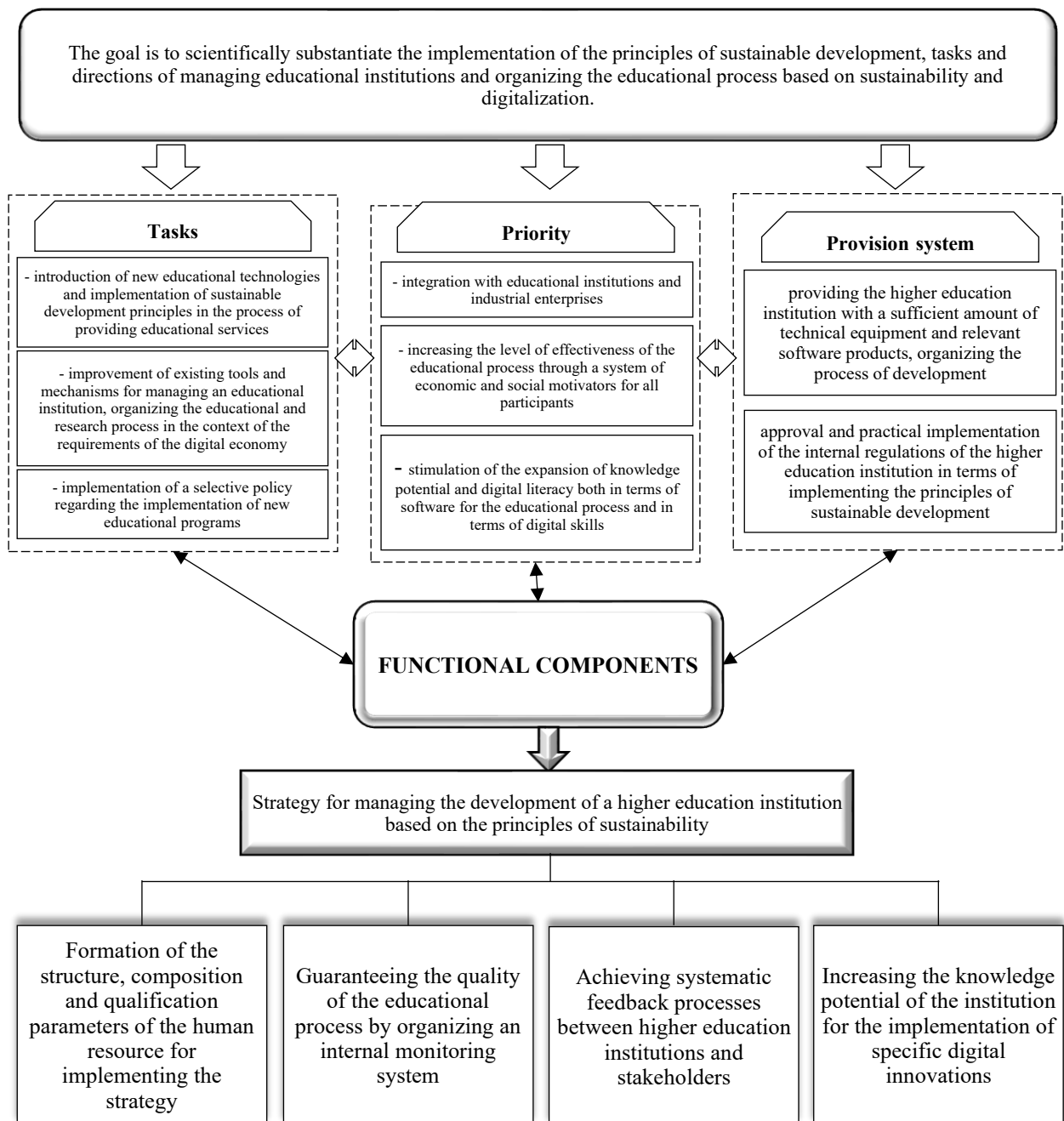
**Table 1. Principles of Implementation of the Mechanism of Management of Higher Education Institutions on the Basis of Sustainability**

No.	Principle	Characteristics and content of the principle
1	2	3
1	The principle of multi-criteria	It provides for the need to comply with the main criteria laid down in the basis of the Strategy for the Development of Higher Education in Ukraine for 2022-2032 and the Sustainable Development Strategy Ukraine – 2030.
2	The principle of strategicness	The mechanism of management of higher education institutions on the basis of sustainability should take into account the dynamics of the market of educational services and the corresponding innovative changes in the labor market
3	Principle of systemic interaction	It provides for the interaction of the management apparatus of a higher education institution with stakeholders, state and local authorities, and public organizations
4	Principle of efficiency	Maximizing the result of the ratio of the result from the implementation of the mechanism in the direction of strengthening the position of the institution in the market of educational services
5	Adequacy principle	It provides for compliance with changes and trends in the development of the higher education system in the context of the dynamics of the realities of time

*\*Source: systematized by the authors.*

However, the transformation of managerial approaches in the functioning of higher education institutions is a long-term process that actualizes the implementation of strategic measures. Thus, the Strategy for Management of the Development of a Higher Education Institution on the Principles of Sustainability is a holistic and logically built tool of strategic management, formed on the basis of a correlation with the Concept of Sustainable Development and clarifying strategic documents of the macroeconomic direction, as well as programs and plans for the development of a higher education institution. The effectiveness of the implementation of the Strategy is evaluated on the basis of a study of changes that have occurred in the general trend in the development of a higher education institution, the quality of services provided, the impact on the labor market supply and the formation of an intellectual resource of the digital economy (Figure 5).

The process of forming the Strategy involves determining the final goal with its subsequent decomposition to the level of current tasks. The purpose of the Strategy for Managing the Development of Higher Education Institutions on the Principles of Sustainability is to scientifically substantiate the implementation of the principles of sustainable development, tasks and directions of management of educational institutions and the organization of the educational process based on sustainability and digitalization. The main task of the strategy is to ensure the implementation of sustainable development priorities in the functioning of a higher education institution and to ensure the educational process, taking into account the requirements of the digital economy and the relevant demands of the labor market. During the development of the Strategy, intermediate and final targets should be determined based on the requirements of strategic and program documents at the national and sectoral levels.



**Figure 5. Strategy for managing the development of a higher education institution according to the principles of sustainability**

*\*Source: developed by the authors.*

## Conclusions

The formation of a model of an educational institution on the basis of sustainability will solve a number of problems caused by the traditional model of education: the lack of effective mechanisms for resolving the issues of coordinating the development of the social, economic and environmental spheres as a

human habitat; the complexity of forming a systemic worldview based on the disciplines taught within the educational program; the complexity of studying and practical solution to the problems of local development; low level of adaptation acquired knowledge to changes in social needs.

Therefore, the importance of the formation and development of a new model of an educational institution in the context of the challenges of the digital economy is very great for Ukrainian society. The most important issues of

the state's life depend on how quickly and efficiently the process of its formation takes place — sovereignty and national security and the well-being of its residents.

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