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# Sustainable Economic Development: Theory of Institutional Constructivism

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## ABSTRACT

The paper is devoted to the formulation of the problem of sustainable development of the intellectual economy and the use of the theory of constructivism in relation to solving the problems of institutional design of socio-economic systems. The purpose of this work is to explore the possibilities of applying the theory of constructivism to solve the problems of institutional design in the context of sustainable development of the intellectual economy. The author of the work proceeds from the need for a reasonable approach to action, which creates the basis for constructing an institutional environment, the source of which is the paradigm of self-organization of socio-economic systems, which underlies the theory and practice of radical constructivism. The study shows the links between sustainable development and the theory of institutional constructivism by identifying important goals, directions, and strategies. Based on the awareness of current global and national processes, the key issue is the transition to an innovative type of development. This transition involves important steps that involve changing the focus from traditional approaches in economics and production to strategies based on advanced technologies. This research is conducted by researchers, policymakers, and practitioners dealing with economic development, sustainability, and innovation.

**KEYWORDS:** Economics, Sustainable Development, Intellectual Economy, Knowledge-Based Economy, Theory of Constructivism, Institutional Design, Socio-Economic Systems

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# Устойчивое экономическое развитие: теория институционального конструктивизма

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## АННОТАЦИЯ

Данная работа посвящена формулировке проблемы устойчивого развития интеллектуальной экономики и применению теории конструктивизма в контексте решения задач институционального проектирования социально-экономических систем. Цель данной работы заключается в исследовании возможностей применения теории конструктивизма для решения проблем институционального проектирования в условиях устойчивого развития интеллектуальной экономики. Автор исходит из необходимости обоснованного подхода к действию, который создает основу для построения институциональной среды, источником которой является парадигма самоорганизации социально-экономических систем, лежащая в основе теории и практики радикального конструктивизма. Исследование демонстрирует связи между устойчивым развитием и теорией институционального конструктивизма, определяя важные цели, направления и стратегии. Осознавая текущие глобальные и национальные процессы, ключевой задачей является переход к инновационному типу развития. Данный переход требует значительных действий, которые включают пересмотр существующих подходов в сфере экономики и производства в пользу стратегий, основанных на новейших технологиях. Исследование ведется группой экспертов, включая исследователей, политических деятелей и специалистов на практике, которые специализируются на вопросах экономического прогресса, устойчивого развития и инноваций.

**КЛЮЧЕВЫЕ СЛОВА:** экономика, устойчивое развитие, интеллектуальная экономика, экономика основанная на знаниях, теория конструктивизма, институциональный дизайн, социально-экономические системы

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### Introduction

In the modern world, society faces large-scale challenges related to ensuring sustainable development. This requires the integration of economic, social, and environmental goals. At the same time, the growing recognition of the role of institutions in shaping sustainable development underscores the importance of understanding the mechanisms of their interaction with social processes. In this context, the theory of institutional constructivism is an analytical tool that allows a deeper understanding of the mechanisms of formation and functioning of institutions that promote or, conversely, hinder sustainable development.

Institutional constructivism, based on ideas about the socially constructed nature of reality, focuses on the interaction processes between various social actors who, through their actions and relationships, form the institutional structure of society. This process involves the formation of the necessary legislative organizational and legal foundation capable of stimulating the development of human capital and the intellectual economy as a whole. As a result, the intellectual economy acts not only as an economy based on knowledge, innovation, and technology but also as a system in which the humanization of relations, sustainability of development, and responsibility to future generations is of key importance. It is this approach that allows us to respond to the complex challenges of our time based on the integration of scientific knowledge and practical experience.

In the context of globalization and Russia's integration into the world economy, especially after joining the World Trade Organization (WTO), there is an increasing need to comply with international standards and rules. This requires the harmonization of domestic legislation and standards with international requirements, which is an essential step towards integrating the Russian economy into the global system and increasing the competitiveness of Russian goods and services at the international level. Thus, in the context of the transition to an intellectual economy and the globalization of the world economy, institutional design acts as a critically important process aimed at creating favorable conditions for the development of innovation and human capital and improving the standard of living of the population while maintaining an ecological balance (ECD Work on Innovation, 2009).

Based on this, this work is devoted to analyzing the problem of sustainable development of the intellectual economy and the role of institutional design in forming an effective socio-economic system. In this paper, we proceed from the pre-

mise that a reasonable approach to the organization of economic activity, based on the principles of self-organization and radical constructivism, can serve as a foundation for creating a stable institutional environment. The theory of constructivism, which focuses on the active role of subjects in interpreting and constructing social reality, offers a unique view of the processes of formation and functioning of institutions that contribute to sustainable development.

The paper will attempt to systematize approaches to institutional design based on the ideas of radical constructivism and the paradigm of self-organization of socio-economic systems. Special attention is paid to issues related to creating conditions for the development of human capital, innovation, and sustainable socio-economic development. The authors seek to explore how an institutional environment formed on the principles of constructivism can contribute to achieving the sustainable development goals of the intellectual economy (Makarov, 2003).

Thus, this work attempts theoretical understanding and practical application of the concepts of constructivism in the context of the tasks of institutional design for the sustainable development of the intellectual economy. Through the analysis of relevant approaches and practical examples, this study will contribute to developing effective strategies for managing socio-economic systems in the face of modern challenges.

### Literature Review

Modern human civilization has entered an era that will require from all people of the planet an unprecedented breaking of traditional views, values, and approaches, primarily about an economic development strategy focused on the growth of production and consumption, the pursuit of profit, disregard for environmental problems, technological threats and, above all, the development of innovative activities related to the introduction of modern technologies, information, nano- and biotechnologies.

It is evident that post-crisis, post-industrial technology will focus on using human knowledge and intellectual abilities in the production field. In this regard, the authors Glazyev et al. (2012) noted in their work that "the modern paradigm of economic development at present should be focused on creating economic prerequisites for the development of an intellectual economy". As a result, the intellectual economy is an economic system that is based on an understanding of the laws of the physical world and social relations, the pur-

pose of which is to strengthen and develop human resources to create the necessary material goods. In addition, such an economy aims to protect the environment from the negative impact of technological changes, improving the quality of life and increasing the duration of people's active life.

Currently, economic development is traditionally associated with economic growth based on increased resources and quantitative indicators such as output, income, and productivity. However, an alternative development model, conventionally called "sustainable development", is gradually taking shape in the world community. This approach is a complex phenomenon encompassing economic, environmental, social, cultural, political, spiritual, and moral dimensions. The concept of sustainable development became widespread after the UN Conference on Environment and Development in Rio de Janeiro in June 1992, where a critical decision was made on the need to change the global community's development path radically. This turnaround was caused by the threat of an environmental catastrophe that could cause catastrophic consequences for all life on Earth in the 21st century, based on an analysis of the current trend of deterioration of the global environmental situation.

At the conference, the UN member States were invited to adopt the concept of sustainable development as a foundation for the progress of the world community. The essence of this concept is to organize society so that its activities do not lead to irreversible harm to the environment and do not deprive future generations of the most essential resources necessary for life (Glazyev et al., 2012). Sustainable development implies finding a balance between the socio-economic needs of humanity and the preservation of the natural environment, as well as striving to reduce economic differences between developed and developing economies through technological innovations and more rational consumption of resources (Bolshakov, 2011). This concept is a strategic direction of human development on the way to the noosphere. Nevertheless, despite their humanity and clarity, these principles are still somewhat abstract in nature and, in practice, often give way in the face of economic interests, the urgency of modern needs, and other development models that prevail in the modern world.

Sustainable development is defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. In subsequent works, this approach is developed through the prism of eco-

nomical, social, and environmental aspects (Glaserfeld, 1978; Stiglitz et al., 2010; Sachs, 2015). The fundamental basis for understanding institutional constructivism is the work of scientists such as North, Ostrom, and Folke, who investigated the construction of social reality through institutional facts (North, 1990; Ostrom, 2008). These theoretical approaches emphasize the importance of subjective perceptions and interactions in forming institutional structures. Building an adequate institutional framework that promotes sustainable development is considered one of the critical aspects of the work on environmental economics and resource management (Folke et al., 2005).

Examples of applying institutional constructivism concepts to achieve sustainable development include the development of policies on climate change, biodiversity conservation, and natural resource management (Barbier, 2011; Bilan et al., 2017). The work of some scientists has shown how changing institutional frameworks can influence economic behavior and decision-making leading to more sustainable outcomes (Akerlof & Kranton, 2000; Tonn, 2004; Popov & Vlasov, 2006). Despite significant theoretical and practical contributions to understanding the relationship between institutional constructivism and sustainable development, several challenges remain. These challenges include the need for a deeper understanding of the mechanisms of interaction between institutional change and sustainable development, as well as the development of tools to assess their effectiveness.

Within the framework of the theory and implementation of intellectual economics, the importance of understanding knowledge and intelligence is first argued as the ability to take conscious and expedient actions. Thus, knowledge becomes a key element not only for the economic sphere but also for public life in general. In the process of working with complex systems adequate to the human scale, a new form of relationship between truth and morality, directed and value-based action appears. Research and technological work in such contexts involves analyzing a wide range of potential ways to develop the system. Any influence on the system using the intellectual potential for its study or modification is faced with the need to choose a specific development direction among many possible ones.

Essential guidelines for this choice are not only knowledge but also moral principles, which impose restrictions on research methods and transformation of systems that are potentially dangerous to humans. Thus, the intellectual economy acts as an economy based on reason, focused not only on

satisfying the material but also on people’s moral and spiritual needs, thereby contributing to sustainable development and social cooperation.

In conclusion, the literature review highlights the importance of integrating the concepts of institutional constructivism and sustainable development to form a compelling and harmonious socio-economic system. The review opens the way for further research in the field of creating sustainable institutional structures capable of adapting to changing conditions and ensuring the well-being of future generations.

**Methods**

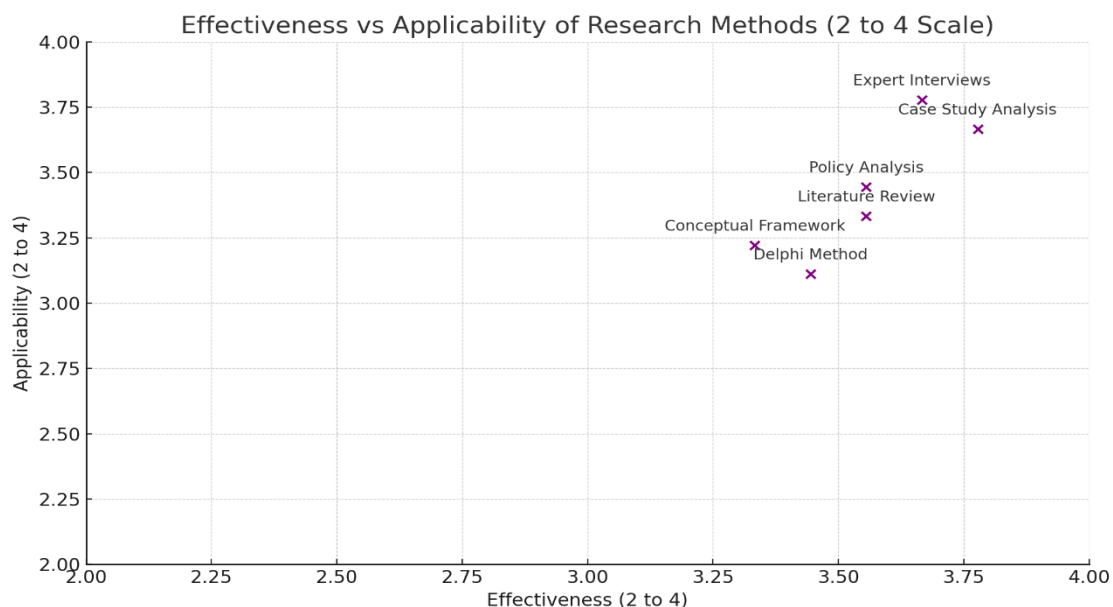
The research paper aims to delve into the complex interplay between the theory of constructivism and its application to the institutional design of socio-economic systems within the framework of sustainable development in the intellectual economy. Given the multidisciplinary nature of this study, the research methodology should be comprehensive, encompassing various approaches to fully capture the nuances of institutional constructivism and its implications for sustainable development.

To select the research methods, it was necessary to build a scale that plots the perceived effectiveness versus the applicability of different research methods for studying the application of constructivism in institutional design for sustain-

able development in the intellectual economy. Each point represents a method, with its position on the graph indicating its relative effectiveness and applicability based on a hypothetical scoring system (see Figure 1).

This rescaling maintains the relative positioning of each method, providing a clearer comparison within a standardized range. Each point represents a different method, such as Literature Review, Conceptual Framework Development, Case Study Analysis, Expert Interviews, Delphi Method, and Policy Analysis. The positioning of each method along the axes indicates its relative effectiveness (x-axis) and applicability (y-axis) within this constrained scoring range. The closer a method’s score is to 4, the higher its perceived effectiveness and applicability for the study. This visualization helps in strategically selecting the most suitable methods based on their consolidated impact and practical relevance to the study’s objectives.

Based on the graph, Literature Review and Conceptual Framework Development indeed appear among the important methods for the study, as indicated by their positions. These methods score relatively high on both effectiveness and applicability within the adjusted scale of 2 to 4. Their positioning suggests that they are deemed highly relevant and useful for exploring the application of constructivist theory to institutional design for sustainable development.



**Figure 1** - The perceived effectiveness versus the applicability of different research methods

Note: compiled by author



### Research Results

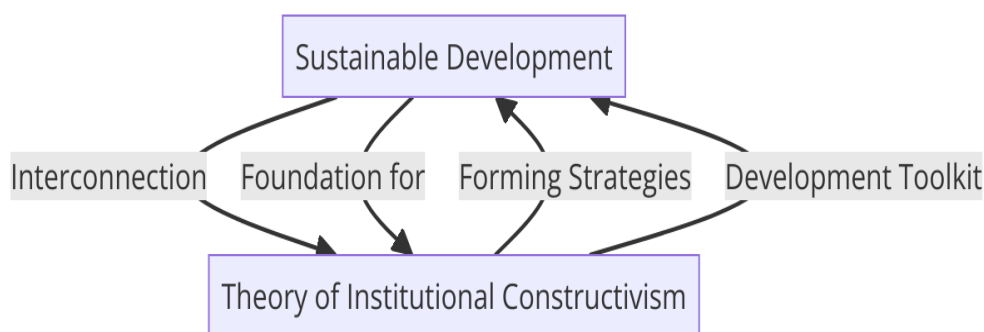
The study revealed that today Western countries actively advocate the inclusion of environmental standards in regional and international trade agreements, making the “environmental friendliness” of goods a criterion for their presence on the global market. This may lead to the creation of unjustified obstacles for those States that do not meet the established requirements. Western countries realize that the traditional industrial development model is no longer relevant but continue to follow a competitive strategy, trying to preserve their privileges by limiting access to resources for less developed countries.

The concept of sustainable development, recognized as necessary to respond to modern challenges, plays a critical role in the future of Russia, Kazakhstan, and other countries of the Eurasian Union, defining their strategic directions and reforms. This strategy, which provides for uniting the

efforts of the whole world to ensure the survival of mankind and the protection of the biosphere, has already been reflected in the commitments undertaken by Russia within the framework of the documents signed at the UN Conference.

The international community is increasingly aware that in order to implement sustainable development successfully, it is necessary to review current life values, paying more attention to moral and spiritual aspects. This includes exchanging knowledge and advanced technologies between developed and developing countries. However, such a revision of values can be painful for modern market economies, where profit maximization is a priority, which makes the need for such an adjustment challenging to implement and departs from it as the primary driver of society’s development.

In more detail, we can consider the links between sustainable development and the theory of institutional constructivism in Figure 2.



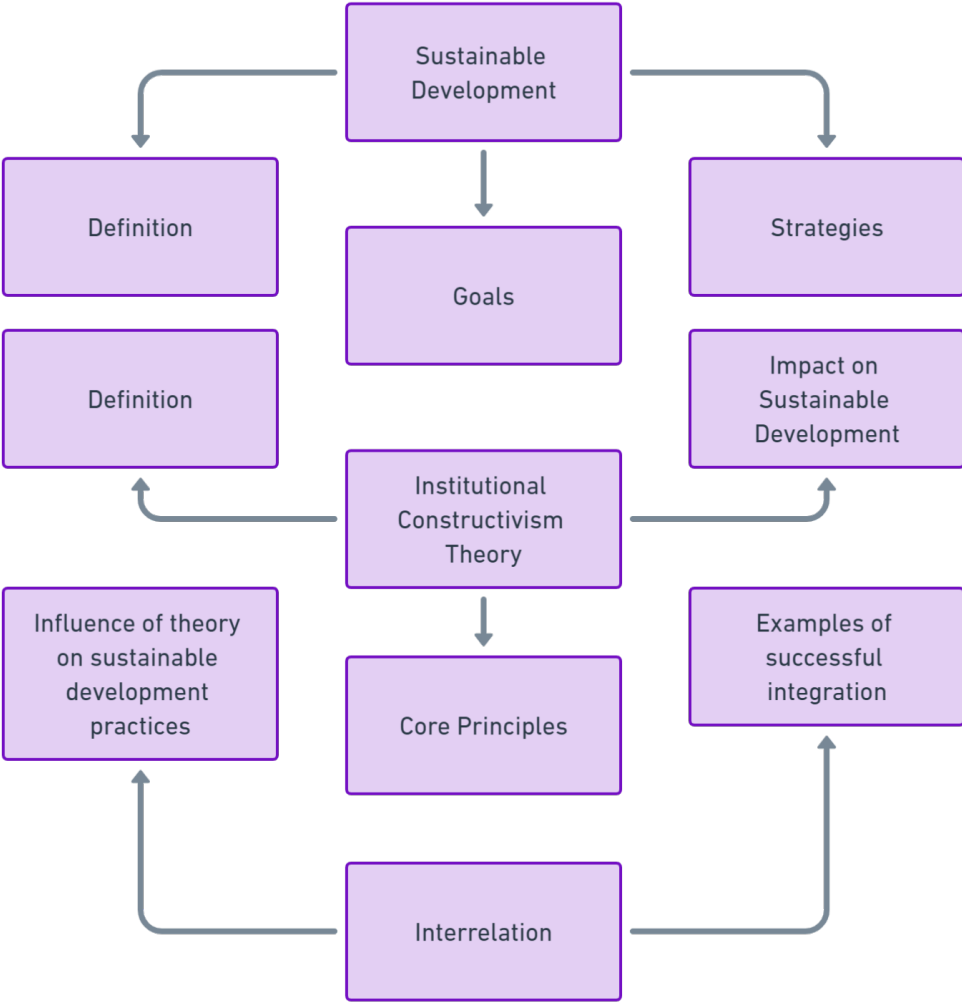
**Figure 1** – Links between sustainable development and the theory of institutional constructivism

Note: compiled by author

Despite clear recognition and awareness of the interconnections between various components, there are certain nuances to consider. On one hand, the populations and governments of developed countries are reluctant to change their lifestyle and the “rules of the game” established for others. On the other hand, they understand that the accumulating dispute will inevitably lead to reassessing the foundations of the global economic and political order. The market economy, with its unrestrained exploitation of both humans and nature, cannot by itself solve these problems - it cannot provide jobs for the unemployed or facilitate the transition to environmentally safe technologies, nor can it protect the interests of the poor and future generations. Therefore, it is unrealistic and detrimental to base

humanity’s survival strategy on current technologies and the neoliberal market economy. In this context, the practical market totalitarianism and environmental protection are incompatible. Given this understanding of global and national processes, our transition to an innovation-driven development model is essential. The cornerstone and strategic direction of this model should be innovative activity.

Taking into account the above understanding of the ongoing processes in the world and within the country, we must talk about our transition to an innovative type of development. Its basic, strategic direction should be the definition, goals and strategies, as detailed in Figure 3.



Made with Whimsical

**Figure 3** - The influence of the theory of institutional constructivism on the practice of sustainable development

Note: compiled by author

This diagram visualizes the relationship and key aspects of sustainable development and the theory of institutional constructivism through a structured flow of information. Thus, sustainable development is the central theme of the diagram and branches into three main aspects: definition, goals, and strategies. Next, institutional constructivism theory is divided into three segments: definition, basic principles, and level of influence. Moreover, finally, the last block is the interrelation. Impact on sustainable development, how institutional constructivism theory affects sustainable development practices and strategies. Interrelation – this block serves as a connecting link between sustainable development and the theory of institu-

tional constructivism, demonstrating the influence of theory on the practice of sustainable development and giving examples of successful integration of these approaches. The diagram shows how the theory of institutional constructivism can be applied to achieve sustainable development goals, presenting the connection between theoretical concepts and practical strategies.

Russia’s economic strategy should be based on the principles of sustainable development, considering the relationship between various aspects. The key focus of these efforts should be upgrading production facilities, technological renewal, and structural changes in industry through integrating advanced and scientifically intensive technologies.

In this context, the importance of the human element, capital, intelligence, and ethical norms in relations between people and between man and nature is undoubtedly increasing. Science plays a crucial role in this process.

Achieving these goals is not possible only with the help of competitive market mechanisms. It is necessary to develop clear institutional mechanisms that would direct the State's and society's efforts to achieve sustainable development. The importance of government regulation in this pro-

cess is still underestimated and incomprehensible to many, although its role, according to global development trends, will inevitably increase.

Based on the awareness of current global and national processes, the critical issue is the transition to an innovative type of development. This transition involves a shift in focus from traditional approaches in economics and production to strategies based on innovation and advanced technologies. Let us look at what this means and what steps can be taken for a successful transition (see Table 1).

**Table 1** – Important steps for a sustainable transition

Direction	Bried description
Innovative sustainable development	1. Research and development activities (R&D): The foundation of innovative development. Public and private investments in R&D are critical for generating new ideas and technologies. 2. Support for startups and innovative companies: Creating a favorable business climate for young companies engaged in developing innovative products and services. This includes tax incentives, grants, venture capital investments, and simplification of bureaucratic procedures.
Education and Human Resources Development	Investments in education and training, with an emphasis on science, technology, engineering, and mathematics (STEM), and the development of creativity and innovative thinking.
Digitalization and information technology	The transition to a digital economy and the introduction of information technology in all spheres of life to increase their efficiency and accessibility.
Sustainable development and environmental innovations:	Developing and applying technologies aimed at reducing environmental impact, transitioning to renewable energy sources, and efficiently using resources.
<i>Examples of activities</i>	
<ul style="list-style-type: none"> <li>▪ Creation of technoparks and innovation clusters bringing together scientific organizations, educational institutions, and businesses to work together on innovative projects.</li> <li>▪ State co-financing programs for research and development in priority sectors for the country.</li> <li>▪ Developing and implementing professional development and retraining programs for employees working in high-tech and innovative industries.</li> </ul>	

Note: compiled by author

Today, the state faces a critical task: the development and implementation of economic strategies that are based on long-term and current forecasting, a scientific approach to planning, as well as the implementation of government programs aimed at achieving sustainable socio-economic development in the context of overcoming the consequences of the global financial crisis. This requires the creation of an institutional framework that contributes to the formation of the necessary organizational and legal framework to stimulate the development of the intellectual economy, investment in human capital, improvement in the quality

of life of the population, and environmental protection. Essential steps are developing laws, improving legal and economic mechanisms to stimulate innovation, and establishing technical norms and standards for production, technological renewal, and environmental regulations, including self-regulation and public control. Russia's accession to the World Trade Organization (WTO) makes this task even more urgent, requiring compliance with international standards and rules.

These efforts involve taking into account the social criteria of any proposed changes, analyzing their social cost and environmental consequences,



and are based on society's spiritual and moral values and the goals of achieving social harmony and national unity. It seems naive to assume that the transition to sustainable societal development will occur without conflicts. On the contrary, this transition will inevitably involve many serious contradictions and conflicts mainly based on competition for access to markets, resources, environmental resources, and living space.

### Discussions

In the theory and practice of knowledge-based economics and intellectual economics, it is proved that knowledge and intelligence should be understood primarily as the ability to act intelligently. As part of the discussion on the impact of intellectual potential on the knowledge-based economy and the interaction between scientific knowledge and technological progress, several aspects highlighted in the presented sources should be considered in more depth (Tonn, 2004; Popov & Vlasov, 2006; Bolshakov, 2011). These aspects emphasize that knowledge and intelligence are critical drivers for developing the intellectual economy and society.

In this context, the essential guidelines for choosing methods of action are the possession of knowledge and adherence to moral values that prevent dangerous practices for human exploitation and transformation of systems. This implies an understanding of intellectual economics as an economy of the mind aimed not only at satisfying the material needs of an individual but also at fulfilling his moral and spiritual aspirations. This approach contributes to sustainable development and building the foundations of social interaction.

Social partnership in the management of social development requires the introduction of ethical and moral principles that correspond to the new ideals of reasonable action. These ideals are changing ideas about values, paying more attention to the connection between truth and morality.

The purpose of the intellectual economy is to control new scientific and technical knowledge. This includes setting rules for their creation and distribution and imposing sanctions for violations of these rules. It is also essential to provide unique attributes to knowledge, such as intellectual property restrictions and sometimes restrictions on applying new knowledge and technological artifacts.

The results of various studies emphasize the critical role of creating and accumulating new knowledge in developing sustainable economic growth (Akerlof & Kranton, 2000; Folke et al., 2005). This requires institutions that promote the

materialization of knowledge in new technologies and create a favorable socio-economic environment that stimulates innovation and sustainable economic development. Scholars such as Akerlof and Kranton (2000) and Folke et al. (2005) have highlighted the pivotal role that this plays in fostering sustainable economic growth. To achieve this, it is imperative to establish institutions that not only facilitate the transformation of knowledge into tangible technological advancements but also cultivate a socio-economic milieu that encourages innovation and fosters long-term economic prosperity.

In this context, developing the theory of constructivism in the institutional design of socio-economic systems becomes important. The authors proceed from the fact that in economic and sociological theory, the concept of knowledge should be considered as the ability to act intelligently, which is the basis for constructing an institutional environment (Barbier, 2011; Bilan et al., 2017).

Furthermore, within the realm of institutional design for socio-economic systems, the development of constructivist theory assumes paramount significance. This theoretical framework posits that knowledge ought to be conceptualized as the capacity for intelligent action within economic and sociological paradigms. Such a perspective is the foundational cornerstone for constructing institutional environments conducive to innovation and economic progress. Rooted in the principles of self-organization espoused by radical constructivism, this approach emphasizes the importance of adaptive, decentralized structures in driving socio-economic development and fostering resilience within complex systems.

### Conclusions

The theory of institutional constructivism, which contributes to the definition and phenomenological perception of the evolutionary sustainable development of mankind, contributing to the preservation of the noosphere of planet Earth, preserving the power of human potential in the transformation, consumption, and distribution of energy, the processes of transformation of social relations are natural. The development of the theory of constructivism concerning institutional economics involves studying socio-economic and psychological factors underlying the institutional relations of economic entities associated with the production, accumulation, and consumption of material and spiritual goods. It is evident that institutional constructivism does not exclude, but on the contrary, presupposes the development of a system of polit-

ical and public relations, determines the role and place of the state and public institutions in shaping factors of sustainable development, in overcoming negative consequences, including socio-psychological, man-made and environmental consequences of human activity on planet earth, and possibly in the future beyond its side chapels.

Following the conclusions of the theory of historical materialism, the transition to an intellectual economy in a post-industrial society will be carried out on the basis of an evolutionary transition from a capitalist to a socialist mode of production, while preserving at various stages of this transition the features and mechanisms of a market economy combining a variety of institutions of private and public ownership of the means of production.

Institutional constructivism does not exclude the processes of convergence of socio-economic relations, contributing to the evolution from more primitive methods of production, accumulation, and consumption to more economical, intellectual-intensive, energy-efficient, and socially adapted methods. It is obvious that the development of theory and practical implementation of the ideas of institutional constructivism in the development of socio-economic systems, in the analysis of crisis phenomena, ensuring the balanced development of the economy, nature, and society, the creation on their basis of positive mechanisms of social construction, integration and self-organization, will undoubtedly contribute to the positive development of human civilization in the XXI century.

In conclusion, the theory of institutional constructivism emerges as a significant framework that contributes to our understanding and approach to evolutionary sustainable development. Importantly, it emphasizes the natural evolution of social relations and the need to consider these dynamics in the context of sustainable development. Moreover, institutional constructivism does not operate in isolation but rather integrates with broader systems of political and public relations. It delineates the roles and responsibilities of both state and public institutions in shaping the factors necessary for sustainable development. These encompass mitigating negative consequences, including socio-psychological, man-made, and environmental impacts of human activity on Earth and potentially beyond. By acknowledging the interconnectedness of socio-economic and environmental dynamics, institutional constructivism offers insights into fostering resilience and adaptability in the face of

global challenges. Ultimately, it provides a theoretical framework for fostering a harmonious relationship between humanity and its environment, ensuring the preservation of the planet's noosphere and the realization of human potential in transformative endeavors.

#### AUTHOR CONTRIBUTIONS

Conceptualization and theory: EN; research design: EN; data collection: EN; analysis and interpretation: EN; writing draft preparation: EN; supervision: MEN; correction of article: EN; proofread and final approval of article: EN. All authors have read and agreed to the published version of the manuscript

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