International Journal of Education, Social Science & Humanities.
Finland Academic Research Science Publishers
ISSN: 2945-4492 (online) | (SJIF) = 8.09 Impact factor
Volume-13| Issue-6| 2025 Published: |22-06-2025|

THE MAIN PROVISIONS OF THE SYSTEM-SYNERGETIC APPROACH

https://doi.org/10.5281/zenodo.15588339

Juraev Golibjon Raimjonovich
Shakhrisabz State Pedagogical Institute
Lecturer of the Department of "Social Sciences"
E-mail:djurayevgr@gmail.com
Tel: +998973803630

Abstract

In contemporary science and management practice, the understanding and effective governance of complex systems have become increasingly relevant. This article explores the fundamental principles of the system-synergetic approach. The study examines the theoretical foundations of systemology and synergetics, highlighting their potential as an integrated approach. The interconnection of system elements and the mechanisms of renewal emerging from synergetic transformations are substantiated. The article concludes that the system-synergetic approach is not only of theoretical significance but also serves as a practically effective methodology for managing complex social, natural, and technological systems.

Keywords

System, systems approach, structure, hierarchy, synergetics, paradigm, self-organization, chaos, order, philosophy, nonlinearity, complex systems.

INTRODUCTION

The modern world is becoming increasingly complex, necessitating a deeper understanding of multi-level inter-system connections. In this context, systems are not simply considered as a collection of elements but are analyzed as interconnected, dynamic, and evolving structures. This perspective forms the basis of the systemic approach, in which each element is studied as a part of the whole.

At the same time, synergetics holds special significance in explaining the states of disorder, instability, and uncertainty that occur in nature and society. Synergetics explains how internal and external influences lead to self-organization and the emergence of new order within systems.

International Journal of Education, Social Science & Humanities.
Finland Academic Research Science Publishers
ISSN: 2945-4492 (online) | (SJIF) = 8.09 Impact factor
Volume-13| Issue-6| 2025 Published: |22-06-2025|

This article analyzes both systemic and synergetic approaches in an interconnected framework. The integration of these approaches allows for a more comprehensive understanding, analysis, and management of complex systems.

Literature Review: Spivak (2022) defines the systemic approach as a universal competence necessary for problem setting, analysis, and decision-making processes. Voznyuk (2007), on the other hand, introduces the concept of a "third way" for understanding complexity through the integrative principles of synergetics. The views of both scholars complement each other in understanding the dynamics of complex systems.

METODOLOGIYA

Ushbu maqolada sifatli tahliliy metodologiyadan foydalanildi. Asosiy metodlar quyidagilar:

Tizimli tahlil: Spivakning tizim tushunchasi va morfologiyasiga tayanilgan holda.

Sinergetik interpretatsiya: Voznyuk ta'riflagancha, o'zgaruvchanlik, beqarorlik va "uchinchi yo'l" orqali yangilikning yuzaga kelishi tushunchalariga asoslaniladi.

Komparativ tahlil: Har ikki yondashuvning umumiy va farqli jihatlari solishtirildi.

Tahlil asosida tizimli-sinergetik integratsiyalashuvning konseptual modeli shakllantirildi.

RESEARCH RESULTS

Systemic Approach Principles.

Spivak's systemic approach involves the holistic analysis of all elements contributing to complexity, their interconnections, and their hierarchical organization. Key principles include:

Holism: A system is more than the sum of its parts. This is especially evident in social systems and human activity.

Hierarchy: Systems consist of layers or levels, each fulfilling specific functions, ensuring structural stability.

Interconnection: Every element influences the overall state of the system, directly or indirectly.

Environment and Boundaries: Every system interacts with its environment and is considered an open system.

Cybernetic Control and Feedback: Systems constantly evaluate and adjust their conditions through feedback loops.

Synergetic Approach Principles

International Journal of Education, Social Science & Humanities.
Finland Academic Research Science Publishers
ISSN: 2945-4492 (online) | (SJIF) = 8.09 Impact factor
Volume-13| Issue-6| 2025 Published: |22-06-2025|

Synergetics views systems as dynamic and capable of self-organization. Main principles include:

Order from Instability: Chaos and unpredictability in systems can lead to new equilibrium states.

Self-Organization: Systems can transition to new states through internal mechanisms without external control.

Fluctuations and Bifurcation Points: Random changes can lead to choice points that determine the system's developmental trajectory.

"Third Way" Principle: As per Voznyuk, synergetics bridges rational and intuitive thinking through reflective and meditative processes.

Anthropic Principle: Humans are not merely observers but active organizers within synergetic systems.

DISCUSSION

Scientific Interpretation of Findings

Although systemic and synergetic approaches may seem different at first glance, they are actually complementary. The systemic approach focuses on analytical and structural cause-effect relationships, while synergetics explains system dynamics, instability, and the emergence of novelty.

Together, these approaches require complex thinking: logical analysis (systemic) and intuitive-aesthetic comprehension (synergetic).

Evaluation and Synthesis

The systemic approach supports objective, empirical decision-making by analyzing problems holistically.

The synergetic approach values uncertainty and fluctuation as sources of innovation and transformation.

Theoretical Integration: When combined, these approaches form a robust framework for understanding, managing, and transforming reality.

Impact on Scientific Practice: The system-synergetic approach is widely applicable in education, management, ecology, and sociology. For example, education is seen as a complex system, where synergetics helps manage transformation and change effectively.

Limitations and Future Prospects

This research is primarily theoretical and would benefit from empirical application. Future studies are recommended in areas such as education systems, business management, and social innovation using system-synergetic modeling.

CONCLUSION

The system-synergetic approach provides a powerful theoretical and methodological foundation for understanding and managing complex systems in modern science and practice. While systemic thinking enables structural analysis, synergetics uncovers processes of change, instability, and innovation.

The synergy of these approaches enhances depth, adaptability, and scope in scientific thinking, merging the rational and the intuitive. This lays the foundation for new paradigms in knowledge creation.

Recommendations:

In education: Introduce interdisciplinary courses based on system-synergetic principles.

In management: Apply synergetic modeling for strategic decision-making.

In science: Use system-synergetic models to study complex interdisciplinary problems.

The system-synergetic approach stands as a universal scientific paradigm of the 21st century for comprehending and managing complexity. It may well become the basis of future scientific thinking.

LIST OF BIBLIOGRAPHY

1. Спивак В. А. *Системный подход и системное мышление как универсальная компетенция специалиста и руководителя*. Чебоксары: Среда, 2022.
2. Вознюк А. В. *Синергетические основания в системе философский знаний*. Житомир: ОИСЗ, 2007.
3. Хакен, Г. *Синергетика*. М. : Мир, 1980. — 404 с.
4. Пригожин, И.Р. *Порядок из хаоса: новый диалог человека с природой* М. : Едиториал УРСС, 2003. — 310 с.
5. Огнев А.О. *Основы системологии: учеб. пособ.* / А.О. Огнев. – 2-е изд. – Тольятти: ТГУ, 2008. – 254 с.
6. Садовский В.Н. *Основания общей теории систем. Логико-методологический анализ.* М., 1974. 279 с.
7. Князева, Е.Н. *Основания синергетики: синергетическое мировидение* М.: URSS; КомКнига, 2005. — 238 с.
8. Capra F. *The Web of Life: A New Scientific Understanding of Living Systems*.