

SUSTAINABLE GROWTH OF SOCIETY IN THE DIGITAL ERA

Innovation, Technology, Guidance and Management of Education



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01ST OCTOBER, 2025

Organised by

**AKG GLOBAL SUPPORT SERVICE (OPC)
PRIVATE LIMITED, INDIA**

In Association with

**NATIONAL UNIVERSITY OF LIFE AND
ENVIRONMENTAL SCIENCE OF UKRAINE**

Conference Proceedings



AKG GLOBAL SUPPORT SERVICES (OPC) PRIVATE LIMITED

www.akgglobals.com

Published by



AKG GLOBAL SUPPORT SERVICES (OPC) PRIVATE LIMITED
50, Vaishali Enclave, Sector-9, Indira Nagar
Lucknow-226016, Uttar Pradesh, India
Website: www.akgglobals.com

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ISBN : 978-81-971286-7-7

DOI:

First Published: October 08, 2025

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Page Setting & Design by



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Cross-Sectoral Role of Innovation Ecosystems In Business, Logistics and Trade

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In the context of global technological transformations and the Fourth Industrial Revolution (Industry 4.0), the competitiveness of entrepreneurship is determined by the synergistic effects of networking rather than by isolated efficiency. This leads to a paradigm shift, bringing to the forefront the cross-sectoral integration of innovation ecosystems. The theoretical and practical significance of the issue is to study the mechanisms of innovation diffusion between the technology sector and areas critical to economic stability, such as logistics and trade, which is necessary to justify the development of omnichannel business models and ensure the sustainability of supply chains. The significance of the topic is reinforced by the imperative of the transition of national economies to structural transformation on an innovative basis, where functional ecosystems are a key factor in ensuring macroeconomic recovery and increasing the global competitiveness of domestic businesses.

A review of current scientific research shows that cross-sectoral innovation ecosystems play a key role in improving the efficiency of entrepreneurship, logistics,

and trade. T. Jengiz and S. Patala [1] emphasize the importance of cross-sectoral partnerships in shaping the dynamics of innovation ecosystems and the relationship between regional and global structures. M. Nan and L. Huang [2] study the mechanisms of knowledge flows and cooperation between different industries, demonstrating that the integration of innovations contributes to the competitiveness of enterprises. M. Wickramarachige [3] identifies critical factors that ensure the development of sectoral innovation ecosystems, including resource management, digital platforms, and regulatory support. J. Han [4] explores the factors of experimentation efficiency in innovation ecosystems, focusing on practical mechanisms for evaluating the effectiveness and scaling of innovative solutions. At the same time, Ukrainian scholars, including S. Horban [5], H. Kucheruk [5], T. Liadenko [6], V. Kryveschenko [6], I. Nazarenko [7], and Y. Tkachenko [7], focus on the specifics of cross-sectoral integration of domestic enterprises. They emphasize the importance of adapting international models of innovation ecosystems to the local context, especially in the field of logistics and supply chain management, and note that digital technologies and organizational innovations significantly increase business sustainability in the face of global challenges. Thus, the combination of international and Ukrainian research makes it possible to comprehensively assess the cross-sectoral role of innovation ecosystems in the development of business, logistics, and trade, as well as to outline strategic directions for their integration and optimal use to increase the competitiveness of the national economy.

Based on the literature review, we highlight several key aspects of the cross-sectoral role of innovation ecosystems in business, logistics and trade:

1. flows of knowledge and resources – ecosystems ensure the effective exchange of technological, organizational and digital innovations between different sectors, which increases the overall productivity of business processes;
2. synergistic effects – the interaction of entrepreneurship, logistics and trade creates a common competitive advantage that cannot be achieved in isolated sector development;
3. optimization of supply chains – integration of innovative solutions allows to reduce costs, increase delivery speed and adapt logistics to changes in market demand;
4. omnichannel business models – the use of digital platforms and new technologies in trade helps to synchronize sales channels and increase the resilience of business structures in a crisis;
5. interdependence of sectors – the success of one sector depends on the state and development of others, which necessitates strategic planning and coordination of cross-sectoral innovations.

As we have seen, the cross-sectoral integration of innovation ecosystems is becoming a key tool for improving the efficiency, sustainability and competitiveness of the national economy, ensuring the simultaneous development of entrepreneurship,

logistics and trade. The key mechanisms that ensure cross-sectoral integration are:

Digital platforms (SCM/ERP): synchronize logistics with the operational processes of enterprises. For example, the use of supply chain management platforms can reduce delivery times and minimize storage costs by integrating data.

Data analytics and AI solutions: allow forecasting demand and optimizing sales channels. For example, AI models for demand forecasting prevent overstocking and sales losses.

Cooperative networks and innovation hubs: enable the joint development of products and services and the rapid exchange of technology. For example, entrepreneurship gains access to advanced technologies, logistics to optimized supply chains, and trade to effective market entry strategies.

Thus, the cross-sectoral integration of innovation ecosystems is a key tool for improving the efficiency, sustainability, and competitiveness of the national economy. These ecosystems provide the necessary knowledge sharing, resource optimization, and synchronization of business processes in entrepreneurship, logistics, and trade. The use of digital platforms, analytics, and innovation hubs creates synergies between sectors that increase the resilience of supply chains and the adaptability of trade strategies. The development of such ecosystems is gaining the status of a strategic imperative for technological modernization of business and stimulating the formation of new

business models. This, in turn, increases the ability of enterprises to respond quickly to market changes and ensures the overall stability of the economic system.

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