



INNOVATIVE
WORLD

ISSN: 3030-3079

ORIENTAL JOURNAL OF ACADEMIC AND MULTIDISCIPLINARY RESEARCH

SHARQ AKADEMIK VA KO'P TARMOQLI
TADQIQOTLAR JURNALI

Scientific Journal

2026/6



www.innoworld.net
+998 33 5668868



ORIENTAL JOURNAL OF ACADEMIC AND MULTIDISCIPLINARY RESEARCH

Volume 4, Issue 6
2026

Journal has been listed in different indexings

Google Scholar



ResearchGate

zenodo



ADVANCED SCIENCE INDEX



Directory of Research Journals Indexing

The official website of the journal:
www.innoworld.net

Uzbekistan-2026

FOREIGN MODELS OF TEXTILE INDUSTRY CLUSTERIZATION AS A FACTOR OF INNOVATIVE DEVELOPMENT AND ENHANCING INDUSTRY COMPETITIVENESS

Urinov Akmaljon Axmadjonovich

PhD in Economics, associate professor

Fergana State University

E-mail: urinov_aa@mail.ru

Abstract: The article examines international experience in the formation and development of cluster systems in the textile industry as a tool for enhancing competitiveness, innovation activity, and sustainable sectoral development. The study analyzes the specific features of cluster models in the United States, Europe, and Asia, as well as the operational practices of textile clusters in Surat (India), Dalang (China), Techtera (France), and the Portland sports industry cluster (USA).

The research demonstrates that the effectiveness of the cluster approach is ensured through the territorial concentration of enterprises, production cooperation, integration of science and business, development of innovation infrastructure, and government support mechanisms. International experience confirms that clusters serve as an effective instrument for modernizing the textile industry, expanding export potential, and forming sustainable competitive advantages of national economies.

Keywords: cluster system, clusterization, textile industry, light industry, innovation, production cooperation, industrial integration, global value chains, competitiveness, government support, international experience.

Integration represents an institutionally established and systematic process of combining economic elements and economic units at the mega- and macroeconomic levels. At the mega level, examples of such integration associations include the European Union, MERCOSUR, and APEC. The emergence and development of these integration structures are determined by objective political, economic, and historical processes. The establishment of free trade zones does not lead to a fundamental transformation of the structure of the global economy; however, it significantly contributes to the expansion and intensification of international trade relations.

At the microeconomic level, integration processes are implemented through the formation of business associations within national economies — clusters, which represent a set of interconnected enterprises and organizations united by common production activities, the manufacture of final products, and territorial proximity.

Under modern conditions, the creation of effective innovation networks has evolved into the concept of developing competitive industrial clusters. This

concept has become one of the key directions of national industrial policy and serves as a foundation for implementing strategic initiatives aimed at strengthening cooperation between public and private capital.

Table 1.

Main sectoral directions of economic clusterization in selected countries worldwide⁷

Basic Industries for the Creation of Production Clusters	The main countries where sectoral clusters have been established
Electronic Technologies and Telecommunications, Information Technology	Switzerland, Finland
Biotechnology and Bioresources	The Netherlands, France, Germany, the United Kingdom, Norway
Pharmaceuticals and Cosmetics	Denmark, Sweden, France, Italy, Germany
Agricultural Production and Food Processing Industry	Finland, Belgium, France, Italy, the Netherlands
Mechanical Engineering and Repair, Electronics	The Netherlands, Italy, Germany, Norway, Switzerland, Japan, Austria
Healthcare	Sweden, Denmark, Switzerland, the Netherlands
Light Industry	Switzerland, Austria, Italy, Sweden, Denmark, Finland, India, China
Education and Technology Parks	Germany, France, Finland, Austria
Construction Sector	Finland, Belgium, the Netherlands, Turkey
Energy Sector	Norway, Finland
Communications and Transport	The Netherlands, Norway, Ireland,

⁷ Uskova, T. V. (Ed.). (2019). *Production Clusters and Regional Competitiveness: Monograph*. Vologda: Institute of Socio-Economic Development of Territories of the Russian Academy of Sciences. 246 p.

	Denmark, Finland, Belgium, China
--	----------------------------------

In modern conditions, clustering is one of the key factors contributing to economic growth, enhancing innovation activity, and increasing the competitiveness of national economies. Currently, cluster models have become widespread and cover approximately 50% of the economies of the world's leading countries, including the United States, the United Arab Emirates, Germany, Italy, Canada, Singapore, Japan, Malaysia, Finland, and France. Their development is driven by their ability to ensure technological modernization, strengthen production linkages, increase export potential, and integrate companies into global value chains.

The most advanced cluster system has been developed in the United States, where approximately 380 clusters operate, bringing together more than half of the country's enterprises and generating around 60% of GDP. In Italy, 206 industrial clusters provide employment for 43% of workers in relevant industries and account for more than 30% of national exports. China has more than 60 specialized clusters, which unite approximately 30,000 enterprises and 3.5 million employees, with an annual production output of about USD 200 billion. These examples demonstrate the effectiveness of the cluster model as a tool for industrial modernization and improving economic productivity.

In developed countries, cluster strategies are primarily formed on the basis of existing centers of business activity with high levels of competitiveness. At the same time, significant attention is paid to supporting existing clusters, creating new production networks, developing inter-firm cooperation, and expanding knowledge exchange. This approach contributes to accelerating innovation processes and ensuring more efficient utilization of resources.

A representative example is Finland's experience, where a successfully functioning forest industry cluster integrates timber production, forest-based paper products, furniture manufacturing, printing equipment, and other interconnected activities. Owing to a well-developed system of cooperation, knowledge exchange, and innovation implementation, Finland, despite possessing only about 0.5% of the world's forest resources, accounts for approximately 10% of global exports of forest-processing products, including 25% of the world's exports of high-quality paper.

The Japanese experience in the formation of cluster structures based on the concept of technopolises deserves particular attention. The state program implemented in 1983 contributed to the establishment of more than 100 technology parks, which became centers of interaction between science, education, and industry. Subsequently, these structures formed the foundation of modern clusters

based on stable subcontracting and outsourcing relationships between large corporations and networks of small and medium-sized enterprises.

A distinctive feature of the Japanese cluster model is the multi-level system of industrial cooperation, in which leading enterprises interact with networks of specialized suppliers located in close geographical proximity. Long-term contractual relationships between major corporations and subcontractors ensure the stability of production processes, improve product quality, and facilitate the development of technological competencies among cluster participants.

A prominent example of multi-level cluster cooperation is the automotive cluster of Toyota Motor Corporation, which integrates 122 direct suppliers and approximately 36,000 small and medium-sized enterprises. This system ensures a high level of industrial integration, flexibility of supply chains, and continuous improvement of technological processes.

International experience confirms that clustering represents an effective instrument for structural modernization of the economy, development of innovation infrastructure, strengthening cooperation between business, science, and government, as well as the formation of sustainable competitive advantages.

A representative example of a modern industrial cluster is Austria's experience in the automotive industry. An important factor contributing to its development was the implementation of a state support program aimed at strengthening cooperation between research institutions and the industrial sector, with the objective of improving the innovation environment. By 2000, automotive clusters in Styria and Upper Austria employed approximately 30,000 people, while production output reached USD 8.1 billion, accounting for more than 10% of the country's industrial production.

Currently, the ACStyria Mobility Cluster brings together around 300 companies with more than 70,000 employees and an annual turnover exceeding EUR 17 billion. The cluster serves as a platform connecting industry, research institutions, and government bodies, supporting the development of automotive, aerospace, and railway sectors, as well as projects related to green technologies, autonomous systems, and production digitalization.

The French experience in cluster development is also of considerable interest, as it is based on supporting geographically concentrated small and medium-sized enterprises. The integration of such companies enables more efficient utilization of shared infrastructure, cost reduction, development of cooperation networks, and enhancement of regional competitiveness. France has approximately 200 territorial clusters, of which 60 receive government support.

The French cluster model involves active participation of public authorities in establishing favorable institutional conditions for cluster development, including support for innovation, infrastructure development, and inter-firm cooperation.

The cluster approach is of particular importance for the light industry, where it contributes to the formation of production and innovation ecosystems that unite enterprises, research institutions, and infrastructure organizations. The effectiveness of such clusters is ensured through cooperation among participants, joint utilization of resources, implementation of research and development activities, introduction of innovations, and development of industry standards.

Thus, international experience demonstrates that cluster-based production organization is one of the most effective mechanisms for industrial development, increasing innovation activity, accelerating technological modernization, and strengthening the competitiveness of regions and national economies.

One of the most successful examples of implementing the cluster model in the global light industry is the textile cluster of Surat city (Gujarat State, India). As a result of its development, the city has gained the status of the "Synthetic Capital of India" and has become one of the world's major centers for the production and processing of synthetic textile materials.

The cluster includes more than 10,000 participants, primarily small and medium-sized weaving enterprises that utilize raw materials supplied by a large petrochemical complex located in close proximity. Such territorial concentration ensures the stability of production chains and contributes to cost reduction.

The production infrastructure of the cluster includes more than 700,000 weaving machines, enabling the production of over 2 million meters of fabric per day, which accounts for approximately 12% of India's textile exports. The cluster includes 25 vertically integrated companies, while the majority of participants are small and medium-sized enterprises with an average annual turnover of approximately USD 100,000.

The development of the cluster is carried out with active government support aimed at industrial modernization, infrastructure development, innovation implementation, and the training of qualified specialists. The main areas of support include the establishment of shared-use facilities, industrial parks, design and prototyping centers, educational platforms, exhibition infrastructure, and laboratories for quality control of textile products.

Thus, the experience of the Surat textile cluster confirms the effectiveness of the cluster approach as a tool for the development of the light industry. The integration of manufacturing enterprises, innovation infrastructure, and government support mechanisms contributes to improving the technological level

of the industry, expanding export potential, and forming a sustainable and competitive textile ecosystem.

One of the successful examples of cluster development in the light industry is the sports and outdoor industry cluster in Portland, Oregon, USA. It brings together more than 800 companies specializing in the design, innovative technologies, and production of sportswear, footwear, equipment, and accessories.

Currently, the cluster provides more than 20,000 jobs with an average annual salary of approximately USD 82,700 and serves as a center of attraction for leading international companies in the sports industry. Its formation began around research and marketing projects of Nike, Inc.. An important milestone was the establishment of the agency Wieden+Kennedy in 1982, which developed Nike's famous slogan "Just Do It," becoming an example of effective brand marketing.

Since the late 1990s, divisions and representative offices of leading global brands, including Adidas, Columbia Sportswear, and Mizuno Corporation, have joined the cluster. This contributed to the expansion of production cooperation and the strengthening of international business relations. Since 2012, the cluster has increasingly developed areas related to digital technologies, wearable electronics, and intelligent systems.

A distinctive feature of this cluster is the combination of global value chain management, technological innovation, marketing competencies, and cooperation among large corporations, small enterprises, and startups. The main directions of its development include networking among participants, consulting support for companies, compliance with international sustainability standards, and the advancement of design infrastructure.

Therefore, the Portland cluster demonstrates the effectiveness of integrating business, science, and creative industries as a foundation for sustainable development of the light industry and increasing the competitiveness of products.

Another example of science-industry integration is the textile and flexible materials cluster Techtera in Lyon, France. It represents an innovative platform that unites research organizations, educational institutions, industrial companies, and small businesses for the development and implementation of advanced textile technologies.

The cluster consists of 130 participants, including 30 universities, research centers, and laboratories, 8 large industrial groups, and more than 70 small and medium-sized enterprises. As a result of the high concentration of scientific and industrial potential, more than 10,000 jobs have been created. Techtera ranks second in France in terms of innovation activity and accounts for more than 70% of the country's production of textile materials.

The cluster's participants include companies such as Zodiac Aerospace, Porcher Industries, Gibaud, and SKF. Cluster management is carried out by a specialized non-profit organization that supports innovation projects and develops cooperation between business, science, and government institutions. Since its establishment in 2005, the total amount of attracted funding for cluster projects has reached approximately EUR 510 million.

The main activity of Techtera focuses on supporting scientific research, developing new materials, introducing advanced technologies, and enhancing the competitiveness of the French textile industry.

Within the framework of Techtera's activities, the specialized management organization implements a comprehensive set of measures aimed at developing an innovation-oriented environment and strengthening cooperation among participants. Its key areas of activity include organizing scientific and practical events involving business, academia, and public authorities; supporting research and innovation projects; attracting investment; developing human resources; expanding partnerships; assisting companies in entering international markets; and organizing business events.

A significant example of textile industrial cluster development is the Dalang textile cluster in China, known as the "Knitting City." This cluster represents one of the most developed industrial associations in Guangdong Province and covers the complete production cycle of knitted products, from fabric and garment manufacturing to the production of equipment and auxiliary materials.

The cluster structure includes more than 4,000 enterprises and two major trading centers. Annual production volume reaches approximately 1.2 billion units, a significant share of which is exported to the United States, Japan, and Hong Kong. The formation of the cluster began in 1979 after the establishment of the first wool-spinning factory, which became the foundation for the development of a specialized market and the subsequent integration of around 300 small enterprises. As a result, approximately 160,000 jobs were created, and enterprises captured more than 30% of the domestic market.

Further development of the cluster was accompanied by growth in production and export indicators: the profits of Dalang enterprises reached USD 1.04 billion, while exports exceeded USD 490 million. Currently, the annual profit of the cluster amounts to approximately USD 2.5 billion, and the volume of product sales in domestic and foreign markets exceeds 1.2 billion units annually.

The experience of Techtera and Dalang demonstrates that the integration of science, production, innovation infrastructure, and government support enables the formation of sustainable industrial ecosystems that ensure technological

development, productivity growth, and increased competitiveness of the light industry.

An important factor behind the successful operation of the Dalang cluster is systematic government support, including assistance in scientific research, product quality control, information and consulting services, logistics infrastructure development, and financial support for enterprises. An additional development instrument is the organization of specialized exhibitions and trade fairs, which contribute to product promotion and expansion of international cooperation.

Institutional support for the cluster is provided through specialized organizations, including:

- research and development center for wool products;
- guangdong provincial wool product quality control station;
- wool textile manufacturers association;
- wool garment designers association;
- textile manufacturing innovation center.

Thus, international experience confirms that the cluster model, when systematically organized, represents an effective instrument for territorial development. It contributes to the formation of a favorable business environment, strengthening cooperation between government, science, and business, implementing innovations, developing human capital, and enhancing the competitiveness of national industries.

Conclusion

The analysis of international experience in the formation and functioning of cluster systems demonstrates that clustering is one of the most effective mechanisms for the development of modern industry, enhancing enterprise competitiveness, and accelerating innovation-driven technological modernization of the economy.

The global experience of leading countries shows that clusters create favorable conditions for integrating manufacturing enterprises, research organizations, educational institutions, and government bodies into a unified innovation and production system. Such integration contributes to more efficient resource utilization, the development of cooperative networks, faster knowledge exchange, and the implementation of advanced technologies.

The experiences of the United States, Italy, Finland, Japan, Austria, and France confirm that the sustainable development of clusters largely depends on the availability of a developed institutional environment, effective mechanisms of cooperation between business and science, and active government support. Particular importance is attached to innovation infrastructure, research centers,

professional training systems, and instruments for promoting products in international markets.

The study of foreign clustering models in the light industry has shown that textile clusters represent an important factor in enhancing industrial competitiveness. The experience of the Surat cluster in India demonstrates the advantages of territorial concentration of small and medium-sized enterprises integrated around a unified production chain. The Dalang cluster in China confirms the effectiveness of combining large-scale production, export orientation, and comprehensive government support. The Techtera cluster in France highlights the importance of integrating scientific potential, innovative developments, and industrial production. The experience of the Portland sports cluster emphasizes the role of design, marketing, and digital technologies in the formation of modern production ecosystems.

Thus, international experience indicates that the cluster model is not only an instrument of territorial development but also a strategic mechanism for increasing productivity, ensuring technological renewal, and facilitating enterprises' access to global markets. For the textile industry, the application of a cluster-based approach enables the formation of a sustainable innovation ecosystem that integrates raw material producers, processors, research institutions, educational centers, and infrastructure organizations.

Consequently, the development of textile clusters represents one of the most promising directions of industrial policy, contributing to the expansion of export potential, creation of new jobs, development of human capital, and strengthening of the competitive position of national economies under conditions of globalization.

References

1. Porter, M. E. (1998). *Clusters and the New Economics of Competition*. Harvard Business Review, 76(6), 77–90.
2. Ketels, C. (2013). *Recent Research on Competitiveness and Clusters: What Are the Implications for Regional Policy?* Cambridge Journal of Regions, Economy and Society, 6(2), 269–284.
3. Delgado, M., Porter, M. E., & Stern, S. (2010). *Clusters and Entrepreneurship*. Journal of Economic Geography, 10(4), 495–518.
4. Uskova, T. V. (Ed.). (2019). *Production Clusters and Regional Competitiveness: Monograph*. Vologda: Institute of Socio-Economic Development of Territories of the Russian Academy of Sciences. 246 p.
5. Enright, M. J. (2003). *Regional Clusters: What We Know and What We Should Know*. In: Bröcker, J., Dohse, D., & Soltwedel, R. (Eds.). *Innovation Clusters and Interregional Competition*. Berlin: Springer.
6. European Commission. (2008). *The Concept of Clusters and Cluster Policies and Their Role for Competitiveness and Innovation: Main Statistical Results and Lessons Learned*. Luxembourg: Publications Office of the European Union.
7. OECD. (2007). *Competitive Regional Clusters: National Policy Approaches*. Paris: Organisation for Economic Co-operation and Development.
8. Ketels, C. (2006). *Michael Porter's Competitiveness Framework—Recent Learnings and New Research Priorities*. Journal of Industry, Competition and Trade, 6, 115–136.
9. Rosenfeld, S. A. (2002). *Creating Smart Systems: A Guide to Cluster Strategies in Less Favoured Regions*. European Planning Studies, 10(1), 1–18.