



Article

Transformation of The Institutional Framework for Cluster Development in Uzbekistan: From a Directive Model to Market Principles

Ustadjalilov Dostonbek Rustamovich*¹

1. Ministry Basic doctoral student at NUUZ named after Mirzo Ulugbek General director of "Insight union" LLC

* Correspondence: ceo@sofmetal.uz

Abstract: This article examines the institutional transformation of cluster development in Uzbekistan over the period 2017–2024, with a focus on the transition from a directive, state-initiated model toward market-based principles of cluster formation and growth. Building on the main theoretical traditions of cluster studies (agglomeration theory, Porter's competitiveness paradigm, New Economic Geography, evolutionary and network approaches), the paper develops a unified analytical understanding of clusters as meso-level systems that combine firms and complementary institutions (research and educational organizations, public bodies, facilitators, and SMEs) within an integrated value-creation framework. From a methodological perspective, it uses systemic and regulatory analysis and supplements it with a SWOT/TOWS logic to derive major institutional strengths, weaknesses, opportunities, and threat profiles relative to Uzbekistan cluster policy. The results imply that the large-scale state patronage that propelled cluster expansion and infrastructure development is also forging institutional pitfalls, such as lopsided sectoral governing regimes, poor stand-alone facilitation, lack of performance assessment, and entrenchment of the one-cluster-one-firm trajectory that may limit rivalry, entry, and capacity upgrading. The paper advocates for an integrated "Cluster" and "Cluster Policy" system and a transition to more rules-based, results-oriented governance to increase institutional cohesion, minimize spontaneously develop practices and ultimately enhance cluster effectiveness and competitiveness through transparent incentives and measurable outcomes.

Keywords: Cluster Policy, Institutional Transformation, Uzbekistan, Market Principles, State Regulation, Facilitators, Performance Monitoring, SWOT/TOWS, Competitiveness, Innovation Ecosystems

Citation: Rustamovich U. D. Transformation of The Institutional Framework for Cluster Development in Uzbekistan: From a Directive Model to Market Principles. American Journal of Social and Humanitarian Research 2025, 6(12), 2813-2818.

Received: 15th Nov 2025

Revised: 30th Nov 2025

Accepted: 10th Dec 2025

Published: 18th Dec 2025



Copyright: © 2025 by the authors. Submitted for open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>)

1. Introduction

Literature with theoretical and practical implications investigating clusters as the vehicle for regional competitiveness, innovation, and growth is abundant. Researchers from alternative economic streams have layered in the discussion of cluster dynamics through consideration of agglomeration effects, institutional arrangements, and the manner in which government policy influences cluster trajectories.

Cluster-oriented industrial development rests on conceptual foundations that reflect different strands of economic thought: classical agglomeration theory, Porter's cluster paradigm, New Economic Geography (NEG), evolutionary economics and network approaches. These explanations focusing on spatial proximity, comparative advantage,

spillover of knowledge, and inter-institutional relationships form what Walcott refers to as the four perspectives of clarity-coalescence, substantiating cluster emergence and evolution [1].

Cluster research, among modern researchers, encompasses a number of complementary paths. Porter clusters as national and regional competitive advantage: labour productivity through agglomeration, rivalry and within efficient production systems - M. Innovation drive by spillovers Interactive learning and flow of tacit knowledge within clusters (Bengt-Åke Lundvall) S. Rosenfeld theorizes that clusters are economic systems of proximity (local and regional level) and they offer us a different definition, clusters should be delineated by functional economic areas and not administrative boundaries. Following on the evolutionary-institutional tradition G. Kleiner regard clusters as adaptive systems which are interactively created through joint cooperation and joint engagement of firms and other elements, which can be seen as an expression of the ability to establish adaptive networks that increase resilience and competitiveness [2]. In *New Economic Geography*, P. Krugman and A. Venables decompose the effects of agglomeration and dispersion forces on spatial concentration, relate agglomeration equilibria to static scale economies, market access and resource competition, and A. Venables corroborates the link between cluster emergence, international specialization and the concentration of skilled labour and complex logistics.

A second strand of scholarship focuses on institutional, evolutionary, and network mechanisms that determine cluster performance over time. R. Nelson and S. Winter interpret firms as routine-building organizations whose accumulated capabilities and institutional environments shape regional development paths. R. Boschma stresses that both geographic and institutional proximity can improve innovation diffusion and adaptability, while R. Martin emphasizes how local norms, regulation, and cultural contexts influence cluster trajectories and the integration of global knowledge [3]. K. Morgan advances the concept of “learning regions,” where universities, research institutes, and firms co-produce knowledge and accelerate innovation-led growth. J. Rayner underscores the catalytic role of proactive public policy in cluster formation, whereas M. Castells highlights decentralization and horizontal networks as channels for faster knowledge exchange, and M. Mazzucato emphasizes mission-oriented, state-led innovation policy and strategic public investment. Within Uzbek scholarship, A. Vakhobov links clustering to the green economy and commercialization of sustainable technologies; T. Rasulov and N. Makhmasobirova analyze clusters as a mechanism for strengthening national competitiveness; and D. Begimova stresses the contextual nature of cluster definitions, pointing to geographic proximity, interconnectivity, synergy, and resource efficiency as common foundational features [4].

2. Methodology

Taking the conceptual framework, policy context, and empirical logic structure of the attached article, this study explores the institutional transformation of cluster development in Uzbekistan during the years of 2017-2024 with the qualitative and analytical research design [5]. The approach is based on systemic and institutional economics, considering clusters as meso level socio economic systems embedded in regulatory, organizational and market environments. Bringing together theoretical synthesis with regulatory and policy analysis, the research charts the trajectory from a directive, government led cluster model towards market-based principles [6]. Core methods comprise comparative institutional analysis of cluster governance mechanisms over time; review of national strategies, decrees, and drafts of policy documents about clusters, and structured interpretive analysis of the ways that formal rules and informal practices influence cluster behavior. An analytical logic of SWOT and TOWS is utilized the needs to measure the effectiveness and constraints of the institution that provides the

formation of domestic and external environment to Uzbekistan cluster policy, so the internal strengths and weaknesses can be identified and matched with the external opportunities and threats [7]. Strengthening competitiveness and innovation: A Systematic approach enables a consistent assessment of state assistance instruments, enabling and monitoring measures and competition conditions in Clusters. The analysis is accompanied of logical generalization/abstraction to locate the same institutional pattern of top-down coordination and the one cluster one enterprise configuration. Instead of econometric estimation, the methodology emphasizes the richness of institutional interpretation, the assessment of policy coherence, and analytical consistency with existing theories of clusters [8]. Such a multi-dimensional methodological framework is able to ensure consistency among theory, policy analysis, and institutional diagnosis, which allows for solid recommendations on governance reforms and performance-based cluster development.

3. Result and Discussion

In our view, a standardized definition of a cluster is essential for establishing a consistent analytical framework to study cluster formation and development [9]. We define a cluster as a mesoeconomic system-forming network of interconnected industrial and technological firms operating within one or several related industries, complemented by research and educational organizations, public institutions, facilitators, and supporting small and medium-sized enterprises (SMEs).

Complementary actors within an innovation cluster perform different functions; research institutions produce scientific outcomes which subsequently flow into production, while educational institutions supply the human capital required by cluster participants [10]. Help SMEs fortifying the value chain by providing services, components or infrastructure from foreign market analysis, start-up networks, accelerator, incubator, venture fund, innovation agency, to suppliers of inputs for a more complex product (Table 1).

Table 1. The summary of Strategies Based on the SWOT Analysis of the State Regulation System for Clusters in Uzbekistan

| No. | Strategy group | Paired factors analyzed |
|-----|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Strengths– Opportunities (SO) | • Credit resources (S1) + Potential foreign markets (O2) • Tax instruments (S2) + FDI inflows (O1) • Customs exemptions/benefits (S3) + Acquisition of advanced foreign technologies (O3) |
| 2 | Weaknesses– Opportunities (WO) | • Lack of facilitators (W3) + Potential foreign markets (O2) • Weak monitoring of project effectiveness (W1) + FDI inflows (O1) • Low interest in R&D (W2) + Acquisition of advanced foreign technologies (O3) |
| 3 | Strengths–Threats (ST) | • Credit resources (S1) + Technological dependence and national protection of technologies (T1) • Tax instruments (S2) + Mature foreign competitors (T3) • Customs exemptions/benefits (S3) + Supply chain disruptions (T2) |
| 4 | Weaknesses– Threats (WT) | • Lack of facilitators (W3) + Mature foreign competitors (T3) • Weak monitoring of project effectiveness (W1) + Technological dependence and national protection of technologies (T1) • Low interest in R&D (W2) + Supply chain disruptions (T2) |

Uzbekistan: Since 2017, Uzbekistan has treated clustering as a key tool for national economic modernization, export expansion and technological upgrading, clearly evident in strategic agenda-setting that favours applied research, an “enterprise–university–research organization” link, and the creation of science–production clusters in priority technology fields [11]. Meanwhile, the cluster formation process has mainly been shaped

by “top-down” logic in which the state takes the lead as the initiator and designer of cluster configurations. We think that while this institutional design has produced short-term speed and coordination, it also creates structural risks—the risk of administrative overreach, fragmented rules across sectors, and stifled contestability in cluster ecosystems.

Our institutional reading of the system indicates an enduring disequilibrium characterized by robust state capacity and weak market self-organization. The state, on the other hand, has developed a wide arsenal — regulatory tools, selective subsidies, strategic programs — to orchestrate resources and orchestrate actors around national objectives [12]. However, the system is still missing some institutional hallmarks: lack of independent facilitation, transparency and predictability into intra-cluster governance, and accountability mechanisms that monitor and promote performance. These drawbacks reinforce coordination breakdowns within clusters, limit the incentives for innovation-oriented collaboration, and can trap players in vertically organized relationships rather than horizontally competitive and cooperative networks.

That is a very used institutional turn, not at least to break through the practices where the one cluster = one enterprise de facto prevails. In doing the evaluation, when a cluster is one down to a single system forming firm and dependent counterparties, the cluster no longer acts as an open meso-level market ecosystem, it is something much nearer to an administered value chain [13]. This kind of set-up can stifle entry, dampen supplier upgrading incentives, and limit the very diversity of experimentation that so often fuels innovation, robustness, and productivity growth in successful cluster systems.

From the perspective of our SWOT/TOWS-based reasoning (in the tradition of Weierich’s matrix logic), the best opportunity is converting Uzbekistan’s own existing strengths policy capacity, financial and fiscal instruments, and regulatory reach into a more credible market environment that attracts investment, supports export discovery, and reduces technology dependence. However, the key dangers—the free-riding via local technological protectionism, the global fragmentation of value chains, the competitive pressure against mature foreign clusters makes it perilous to depend on merely administrative coordination; instead, clusters need to become learning systems with firms in competition with, and collaboration with, both institutions supporting performance and disciplines against rent-seeking, upgrading through innovation and capabilities.

However, the draft concept “Cluster Policy” emphasizes the need to determine the priority directions in cluster formation and development, and to create a system for monitoring the economic development of clusters. The draft of the “Unified Concept of ‘Cluster’ and ‘Cluster Policy’” successfully delineates the transition from a prescriptive, administratively enshrined framework for cluster development to a more market-driven institutional design. It focuses increasingly on the promotion of cluster initiatives, self-organization of players, a development infrastructure (e.g. dedicated centers/authorized structures), and a new strategic perspective on cluster policy. According to this logic, the focus shifts from administrative clustering and assignment of participants to facilitating cooperation and project-based interaction which not only promote firms competitiveness and effectiveness with regard to intra-cluster coordination.

One of the fundamental market principles incorporated in the draft is defining the state not as intervening directly in firm economic choices, but rather as facilitating [14]. The main directions are easing regulatory burden, enhancing business–education linkages and labour upskilling, channeling funds into engineering and public transport infrastructure and other building blocks for industrial activity, and implementing tax incentives in a law-based manner. It expresses expected results in terms of competitive gains (including non-price competitiveness), higher value-added export expansion, innovation dynamics boost, investment attractiveness and territorial socio-economic magnitudes.

Adopting this normative document, at least from the institutional aspect, seems urgent and also is a long-awaited process. The draft was posted on the website for public discussion by the Ministry of Investments, Industry and Trade (MIIT) on 04/05/2023, which closed on 19/05/2023; according to MIIT's comments, the document is under discussion in the Cabinet of Ministers of Uzbekistan. Adoption of such a framework could lay a consistent basis for enhancing the institutional context surrounding clusters by crystallizing consistent definitions, principles and policy tools, hence, decreasing uncertainty, curtailing fragmented and ad hoc initiatives and guiding cluster development toward a more coherent, predictable and in economic terms efficient course [15].

In summary, Uzbekistan has opted for an institutional model of cluster development in 2017–2024 that emphasizes a dominating state role in the initiation and design of clusters, which has helped national and regional authorities in ensuring swift rollout of the program, mobilization of the necessary resources, and in developing infrastructure and financial incentives for clusters. At the same time, we believe that the dominance of top-down approach and the heterogeneity of sector-specific support regimes have created structural constraints: an increasing dependence of the participants on administrative decisions, a patchy "rules of the game" across sectors, and the consolidation of de facto 'one cluster–one system-forming enterprise' pattern that may over the long run stifle competition, entry of new participants, and technological renewal.

We further find that a "broad" toolbox of state support does not, in itself, insulated from temporal shocks of international competition, promise sustainable efficiency gains in clusters without "sufficient" complementary institutions and credible performance evaluation. However, weak monitoring, scarcity of independent facilitators, muted transparency of intra-cluster governance arrangements, and fragmented regulation ostensible induce high transaction costs lowering the appropriability of R&D, cooperation, and value chain upgrading. These weaknesses imply that clusters are in danger of being purely administratively organised including structures but lack the economic forces of a market-based ecosystem with the ability to continuously upgrade, when facing external pressures—technological dependence, market barriers and supply-chain disruptions.

To meet these challenges, we suggest changing the institutional direction from directive management toward market principles via the introduction of a global cluster policy framework (standardized definitions, rules and assessment criteria), obligatory performance monitoring based on accurate KPIs and public reporting, and an independent facilitation system, i.e. the service coordinator rather than the chain monopolist. Only publicly funded R&D tax benefits, subsidies and concessional finance should be anchored on measurable outcomes—exports, value added, productivity, R&D intensity and technological upgrading. At the same time, a long-term reform towards less clustered, and more network-based and competitive configurations is recommended, including non-discriminatory access to infrastructures and markets in the cluster.

4. Conclusion

An incomplete transition from a command, state-centric type of cluster development to market principles in the institutional model for cluster in Uzbekistan over the period 2017 to 2024. The results suggest that the highly activist role of the government has been successful in terms of speeding up cluster emergence, mobilizing resources, and developing elementary productive and infrastructure capacity but it has also produced systemic institutional constraints in the form of, among others, quite disparate regulatory regimes across sectors, poor independent facilitation and performance monitoring, and the consolidation of the one cluster one firm model, which represses competition, entry and technological upgrading. Clusters in Uzbekistan are less open meso economic ecosystems, inspired by the dynamics of incentives and evolution of learning and innovation-based competition and rivalry; this is what the study flags. These results suggest that additional

advances in cluster efficiency and competitiveness will only be realized with a firm commitment to rule based, performance-oriented governance backed by harmonized clustering and cluster policy definitions, transparent assessment benchmarks and quantifiable results related to public support instruments. Designing better delivery systems, notably by enhancing independent facilitation, monitoring, and shared infrastructure access on a nondiscriminatory basis is critically important to foster both self-organization and innovation at the cluster level. Empirical assessment of cluster performance based on firm level and regional data, cross sectoral cluster outcome assessment, and long run assessment of the impact of facilitator institution and KPI based governance on productivity, export diversification, and technological upgrading are to be focused upon in future research.

REFERENCES

- [1] L. A. Gamidullaeva and E. P. Strakhov, "Evolution of the cluster development concept: From agglomeration theory to ecosystems," *MIR (Modernization. Innovation. Research)*, vol. 14, no. 1, pp. 106–125, 2023.
- [2] M. E. Porter, "Clusters and the new economics of competition," *Harvard Business Review*, vol. 76, no. 6, pp. 77–90, 1998.
- [3] H. Etzkowitz and L. Leydesdorff, "The dynamics of innovation: From national systems and 'Mode 2' to a triple helix of university–industry–government relations," *Research Policy*, vol. 29, no. 2, pp. 109–123, 2000.
- [4] H. Etzkowitz, *The Triple Helix: University–Industry–Government Innovation in Action*. New York, NY, USA: Routledge, 2008.
- [5] E. G. Carayannis and D. F. J. Campbell, "Mode 3 and Quadruple Helix: Toward a 21st century fractal innovation ecosystem," *International Journal of Technology Management*, vol. 46, no. 3–4, pp. 201–234, 2009.
- [6] P. Krugman, "Increasing returns and economic geography," *Journal of Political Economy*, vol. 99, no. 3, pp. 483–499, 1991.
- [7] R. Boschma, "Proximity and innovation: A critical assessment," *Regional Studies*, vol. 39, no. 1, pp. 61–74, 2005.
- [8] R. Martin and P. Sunley, "Deconstructing clusters: Chaotic concept or policy panacea?" *Journal of Economic Geography*, vol. 3, no. 1, pp. 5–35, 2003.
- [9] OECD, *Clusters, Industrial Districts and Firms: The Challenge of Globalization*. Paris, France: OECD Publishing, 1999.
- [10] Compiled by the author.
- [11] Decree of the President of the Republic of Uzbekistan "On the Strategy 'Uzbekistan–2030'," *Lex.uz*. [Online]. Available: <https://lex.uz/ru/docs/6600404>
- [12] OECD, *Innovation Clusters and Global Value Chains*. Paris, France: OECD Publishing, 2013.
- [13] World Bank, *Competitive Cities for Jobs and Growth: What, Who, and How*. Washington, DC, USA: World Bank, 2015.
- [14] European Commission, *Smart Guide to Cluster Policy*. Brussels, Belgium: Publications Office of the European Union, 2016.
- [15] Portal for discussion of draft regulatory legal acts of the Republic of Uzbekistan. [Online]. Available: <https://regulation.gov.uz/ru/d/79193>