European Journal of Economics and Management Sciences

2026, No 3

PREMIER
Publishing

Vienna
2026

European Journal of Economics and Management Sciences

Scientific journal

2026, No 3

ISSN 2310-5690

Proofreading	Kristin Theissen
Cover design	Andreas Vogel
Additional design	Stephan Friedman
Editorial office	Premier Publishing Praha 8
	Karlín, Lyčkovo nám. 508/7, PSČ 18600
Email:	pub@ppublishing.org
Homepage:	ppublishing.org

European Journal of Economics and Management Sciences is an international, German/English/Russian language, peer-reviewed journal. The journal is published in electronic form.

The decisive criterion for accepting a manuscript for publication is scientific quality. All research articles published in this journal have undergone a rigorous peer review. Based on initial screening by the editors, each paper is anonymized and reviewed by at least two anonymous referees. Recommending the articles for publishing, the reviewers confirm that in their opinion the submitted article contains important or new scientific results.

Premier Publishing is not responsible for the stylistic content of the article. The responsibility for the stylistic content lies on an author of an article.

Instructions for authors

Full instructions for manuscript preparation and submission can be found through the Premier Publishing home page at: http://ppublishing.org.

Material disclaimer

The opinions expressed in the conference proceedings do not necessarily reflect those of the Premier Publishing, the editor, the editorial board, or the organization to which the authors are affiliated.

Premier Publishing is not responsible for the stylistic content of the article. The responsibility for the stylistic content lies on an author of an article.

Included to the open access repositories:

Typeset in Berling by Ziegler Buchdruckerei, Linz, Austria.
Printed by Premier Publishing, Vienna, Austria on acid-free paper.

European Journal of Economics and
Management Sciences 2026, No 3
ISSN 2310-5690

PREMIER Publishing
ppublishing.org

Section 1. Economics, organization and management of enterprises, branches, complexes

DOI:10.29013/EJEMS-26-3-3-14

NETWORK COLLABORATION FAILURE OF GLOBAL SPORTS GOVERNANCE AND CHINA'S EMPOWERMENT STRATEGY FROM THE PERSPECTIVE OF COLLECTIVE ACTION DILEMMA

Feiyang Guan [1]

[1] College of Westa, Southwest University, Chongqing, China

Cite: *Feiyang Guan. (2026). Network Collaboration Failure of Global Sports Governance and China's Empowerment Strategy from the Perspective of Collective Action Dilemma. European Journal of Economics and Management Sciences 2026, No 3.* https://doi.org/10.29013/EJEMS-26-3-3-14

Abstract

Against the backdrop of rising anti-globalization, regional conflicts and the resurgence of nationalism, global sports governance is trapped in intertwined crises involving doping scandals, organizational corruption, gender disputes and external political intervention. The polycentric network constituted by sovereign states, international sports organizations and global sports industry groups is plagued by prominent collective action dilemmas, including widespread free-riding, fragmented network linkage, unbalanced power structure and difficult interest coordination. Adopting a literature review method, this study takes network governance theory as the core analytical framework to clarify the connotation and structural characteristics of the global sports governance network. It systematically explores the typical manifestations, internal formation mechanisms and logical evolution paths of network collaboration failure in global sports governance. From the dimensions of stakeholder interest games, network trust deficits and insufficient institutional incentive constraints, this paper further excavates the deep-rooted causes of collaborative failure. Guided by the vision of a Community with a Shared Future for Mankind and based on the practical path of Chinese-style sports modernization, this study constructs a multi-dimensional empowerment strategy for China to promote the optimization and reconstruction of the global sports governance network. Specific approaches include establishing network trust mechanisms, designing selective incentive systems, promoting multi-stakeholder collaborative rule-making, and improving network supervision and evaluation systems. This research aims to break through the collective action dilemma of global sports governance, resolve the deadlock of network collaboration failure, provide theoretical references for advancing the reform of global sports governance system, and offer a feasible

Chinese solution for realizing balanced, inclusive and sustainable development of global sports governance.

Keywords: *Collective Action Dilemma; Network Governance; Global Sports Governance; Collaborative Failure; China's Empowerment Strategy; Community with a Shared Future for Mankind*

1. Introduction

1.1 Research Background

The evolution of globalization and anti-globalization trends has profoundly reshaped the international political, economic and cultural landscape, bringing profound structural transformation to the field of global sports governance (Chadwick, S., 2022). As an essential component of global public governance, global sports governance undertakes core functions such as standardizing international sports order, resolving transnational sports public affairs, and coordinating the interests of diverse stakeholders (Dowling, M., Leopkey, B., & Smith, L., 2018). Nevertheless, the contemporary global sports system is continuously troubled by structural defects and operational disorder, including irregular internal operation of international sports organizations, the global spread of doping problems, rampant match-fixing and industrial monopoly, and increasing political intervention in major sports events (Kihl, L. A., Skinner, J., & Engelberg, T., 2017; Lee, K. M., & Hassim, J. Z., 2023). These phenomena have seriously undermined the authority and operational efficiency of the existing global sports governance system (Peeters, T., & Szymanski, S., 2014).

Major international events such as the Paris Olympics have exposed inconsistencies in international anti-doping rules, poor coordination among international sports organizations, and excessive intervention of national forces in sports affairs (Pielke Jr, R., & Boye, E., 2019; Cao, L., 2024). This incident reflects the lack of unified norms and collaborative supervision among network nodes, which serves as a typical embodiment of collective action dilemma and network collaboration failure (Kusumasari, B., Sajida, S., Santoso, A. D., & Fauzi, F. Z., 2024). Different from traditional hierarchical governance models, global sports governance presents obvious polycentric network characteristics, in which multiple independent actors coexist and interact, including sovereign states, the International Olympic Committee, international sports federations, global sports industry groups and sports non-governmental organizations (Chappelet, J. L., 2020). Since no super-sovereign authoritative institution exists within this network, each governance actor holds distinct interest demands and behavioral preferences, pushing the global sports governance network into a typical collective action dilemma (Sugden, J. T., Sheps, S., & Sugden, J., 2023).

Widespread free-riding, deliberate responsibility evasion, interest gaming among participants and fragmented cooperative relations have become major obstacles restricting the effective operation of global sports governance (Dietl, H., Özdemir, A., & Rendall, A., 2020; De Bock, T., Scheerder, J., Theeboom, M., De Clerck, T., Constandt, B., & Willem, A., 2023). Inherent deficiencies such as unbalanced power structure, insufficient mutual trust among network nodes and missing institutional constraints directly lead to extensive network collaboration failure (Burton, N., Chadwick, S., Widdop, P., & Bond, A., 2024). Meanwhile, existing academic studies mostly focus on phenomenon description and case analysis of global sports governance crises (Fahlen, J., & Stenling, C., 2020). Few researches conduct in-depth theoretical interpretation on the internal mechanism of collaborative failure from the perspective of collective action dilemma, and a systematic analytical framework based on network governance theory remains absent (Peng, Q., Dickson, G., Scelles, N., Grix, J., & Brannagan, P. M., 2020). Therefore, it is necessary to explore the logical formation of network collaboration failure and construct targeted optimization strategies.

1.2 Research Significance

1.2.1 Theoretical Significance

This study introduces collective action dilemma theory and network governance theory into the research domain of global sports governance, breaking the limitation of traditional single institutional analysis.

It constructs a complete analytical paradigm of "collective action dilemma–network structure–collaborative failure", clarifying the internal correlation between polycentric network characteristics and collective action predicament in global sports governance. The research expands the application boundary of network governance theory in international sports research and makes up for the deficiency of theoretical depth and systematic framework in existing literature. Furthermore, it integrates the concept of a Community with a Shared Future for Mankind into the network governance analytical system, realizing the organic combination of Western mainstream governance theory and Chinese indigenous governance concepts, and enriching the theoretical connotation of global sports governance research.

1.2.2 Practical Significance

This study systematically sorts out the realistic manifestations and underlying causes of network collaboration failure in global sports governance, and identifies interest conflicts and structural barriers among multiple governance actors. The proposed targeted empowerment strategies can provide practical references for China to participate in global sports governance, enhance the discourse power and influence of developing countries in international sports affairs, and promote the reform of the unreasonable and unbalanced global sports governance pattern. In addition, the research conclusions can offer implications for international sports organizations to optimize network collaboration mechanisms, alleviate collective action dilemmas, and achieve sound operation and sustainable development of global sports governance.

1.3 Research Methods and Research Framework

1.3.1 Research Methods

Literature Review Method: By sorting out domestic and foreign literature concerning global sports governance, network governance theory and collective action dilemma (Dowling, M., Leopkey, B., & Smith, L., 2018; Shilbury, D., O'Boyle, I., & Ferkins, L., 2016), this study clarifies the core connotation, research progress and logical correlation of relevant concepts, laying a solid theoretical foundation for follow-up analysis.

Theoretical Analysis Method: Taking network governance theory and collective action dilemma theory as core analytical tools, this paper analyzes the structural composition, node relations and operational logic of the global sports governance network (Trivellato, B., Cristofoli, D., Galizzi, G., Sicilia, M., & Steccolini, I., 2025; Lubell, M., & Morrison, T. H., 2021), and explores the formation mechanism and evolutionary path of network collaboration failure.

Logical Induction and Deduction Method: This study summarizes the common characteristics and inherent laws of collaborative failure in the global sports governance network, deduces the restrictive factors triggering collective action dilemmas (Meier, H. E., & Garcia, B., 2015), and further constructs China's multi-dimensional empowerment strategy for optimizing global sports governance network (Zheng, J., Chen, S., Tan, T. C., & Lau, P. W. C., 2018).

1.3.2 Research Framework

The research consists of six main sections. The first section is the introduction, elaborating the research background, significance, methods and overall framework. The second section defines core concepts and theoretical basis. The third section analyzes the realistic manifestations and classification of network collaboration failure in global sports governance. The fourth section explores the formation mechanism of network collaboration failure based on collective action dilemma. The fifth section constructs China's empowerment strategies to resolve collaborative failure. The sixth section presents research conclusions, limitations and future prospects.

1.4 Research Innovation

(1) **Innovation of theoretical perspective.** Different from existing studies focusing on institutional reform and case interpretation, this research takes collective action dilemma as the entry point and embeds network governance theory into the analysis of global sports governance, revealing the inherent network logic behind governance failure.

(2) **Innovation of mechanism analysis.** This paper constructs a logical transmission framework of network node imbalance, trust deficit, institutional absence, collective action dilemma and collaborative failure,

deeply analyzing the internal evolution path of global sports governance network failure and making up for the shallow phenomenon-oriented analysis of previous studies.

(3) **Innovation of strategy construction.** Based on the inherent operational rules of network governance, this research designs China's multi-dimensional empowerment paths from the perspectives of trust construction, incentive optimization, rule coordination and network supervision.

2. Core Concept Definition and Theoretical Basis

2.1 Core Concept Definition

2.1.1 Global Sports Governance Network

The global sports governance network refers to a polycentric, relational and open network system formed by multiple independent stakeholders including sovereign states, international sports organizations, global sports industry groups and sports non-governmental organizations. All participants gather around transnational sports public affairs such as rule formulation, event operation, anti-doping management and organizational governance. Without an absolute central authoritative node, all stakeholders maintain interdependent and interactive relations through equal consultation, interest gaming and cooperative negotiation, presenting typical structural characteristics of decentralization, multi-node participation and relational linkage.

2.1.2 Collective Action Dilemma

Collective action dilemma indicates that when multiple rational actors face public affairs, individual rational choices driven by self-interest eventually lead to collective irrational outcomes, due to the non-excludable and non-competitive attributes of public goods. Typical manifestations include widespread free-riding, deliberate responsibility evasion, high cooperative cost and difficulty in reaching consensus. In the global sports governance network, each actor is driven by self-interest and tends to enjoy public benefits brought by global sports governance without bearing corresponding governance costs, which hinders collective cooperation and triggers network operational failure.

2.1.3 Network Collaboration Failure

Network collaboration failure means that under the polycentric structure of global sports governance, multiple governance actors fail to form effective cooperative synergy due to interest divergence, power imbalance, trust deficiency and institutional defects. It is manifested as blocked communication among network nodes, difficult coordination of interest demands, low efficiency of joint governance, and inability to effectively solve transnational sports public problems, further resulting in governance inefficiency, market failure and institutional failure.

2.2 Theoretical Basis

2.2.1 Network Governance Theory

Network governance theory emerged amid the development of globalization and social diversification, differing from traditional hierarchical governance and market governance. It emphasizes that public affairs are jointly managed by multiple equal and interdependent actors through negotiation, cooperation and consultation. Its core logic breaks the single top-down control model and focuses on relational connection, power balance and trust interaction among network nodes. Core elements include network nodes, relational connection mechanism, interest distribution rules and network supervision mechanism, which are highly compatible with the polycentric operational characteristics of global sports governance.

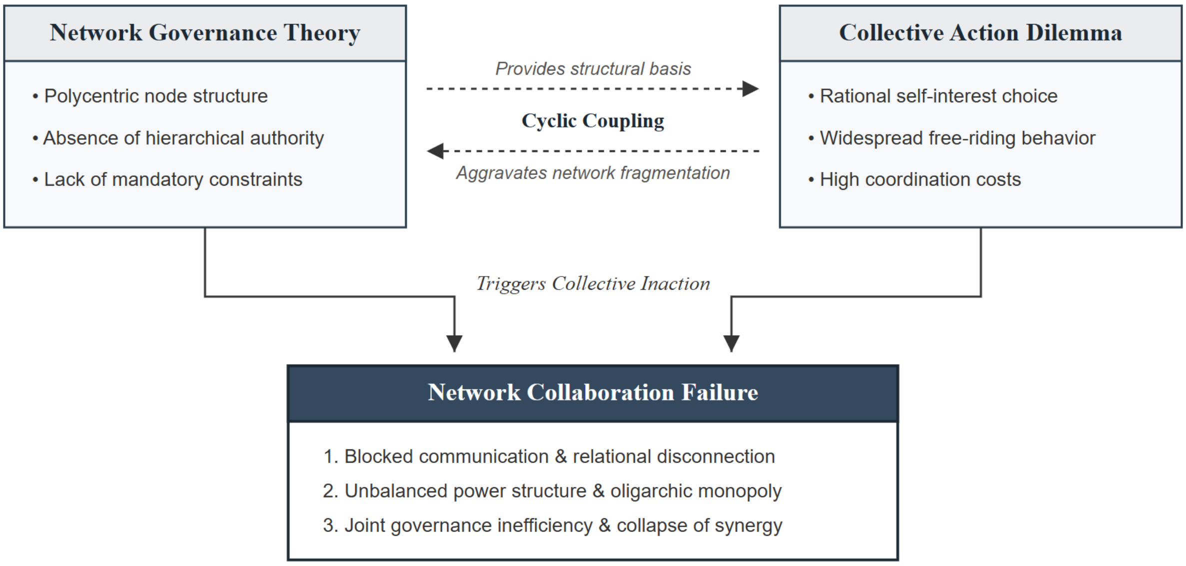
2.2.2 Collective Action Dilemma Theory

Collective action dilemma theory proposes that rational individuals prioritize self-interest in collective public affairs, and the non-excludable attribute of public goods provides inherent motivation for free-riding behavior. The more participants involved in collective affairs, the harder it is to reach consensus and implement effective cooperation. In global sports governance, the large number of network nodes, scattered interest demands and lack of mandatory binding rules create objective conditions for free-riding, which constitutes the core theoretical root of network collaboration failure.

2.2.3 Theoretical Coupling Mechanism

There exists natural logical coupling between network governance theory and collective action dilemma theory in the research of global sports governance. The polycentric node structure of the global sports governance network provides behavioral carriers for the emergence of collective action dilemma; the absence of hierarchical authority and mandatory institutional constraints in network governance creates objective conditions for free-riding and responsibility evasion. In turn, collective action dilemma further causes relational disconnection, power game imbalance and the collapse of collaborative efficiency, forming a cyclic logical relationship. The logical coupling relationship between the two theories is shown in Figure 1.

Figure 1. *Theoretical Coupling Logical Framework of Global Sports Governance Network and Collective Action Dilemma*



3. Methodology

3.1 Subject Level: Free-Riding and Responsibility Evasion of Network Nodes

The global sports governance network involves a large number of stakeholders, including developed countries, developing countries, international sports organizations and commercial sports groups. Driven by self-interest, many network nodes are keen to enjoy public dividends from a stable global sports order but deliberately evade governance costs such as rule formulation, anti-doping investment and organizational operation. Developed countries have long monopolized the right of global sports rule-making and occupied dominant network positions, yet refuse to undertake corresponding global governance responsibilities. Some small and medium-sized countries rely passively on the governance achievements of major sports powers, leading to pervasive free-riding behavior. Such responsibility evasion at the actor level directly weakens the willingness of network collaboration and becomes the primary manifestation of collaborative failure.

3.2 Structure Level: Imbalanced Power and Fragmented Network Connection

Although global sports governance is defined as a polycentric network in theory, it has evolved into an obvious oligarchic dominated structure in practice, resulting in the alienation of network governance. The International Olympic Committee and Western developed sports powers occupy core dominant nodes, controlling rule-making, event allocation and benefit distribution rights. By contrast, developing countries and emerging sports organizations are marginalized with insufficient discourse power and weak participation in core governance affairs. Meanwhile, serious disconnection and communication barriers exist among network nodes. Interest conflicts between international sports organizations and national sports institutions are prominent; communication and coordination mechanisms between commercial sports groups and public governance actors are inadequate. The fragmentation of network linkage makes it impossible to form cohesive collaborative forces and triggers structural collaborative failure.

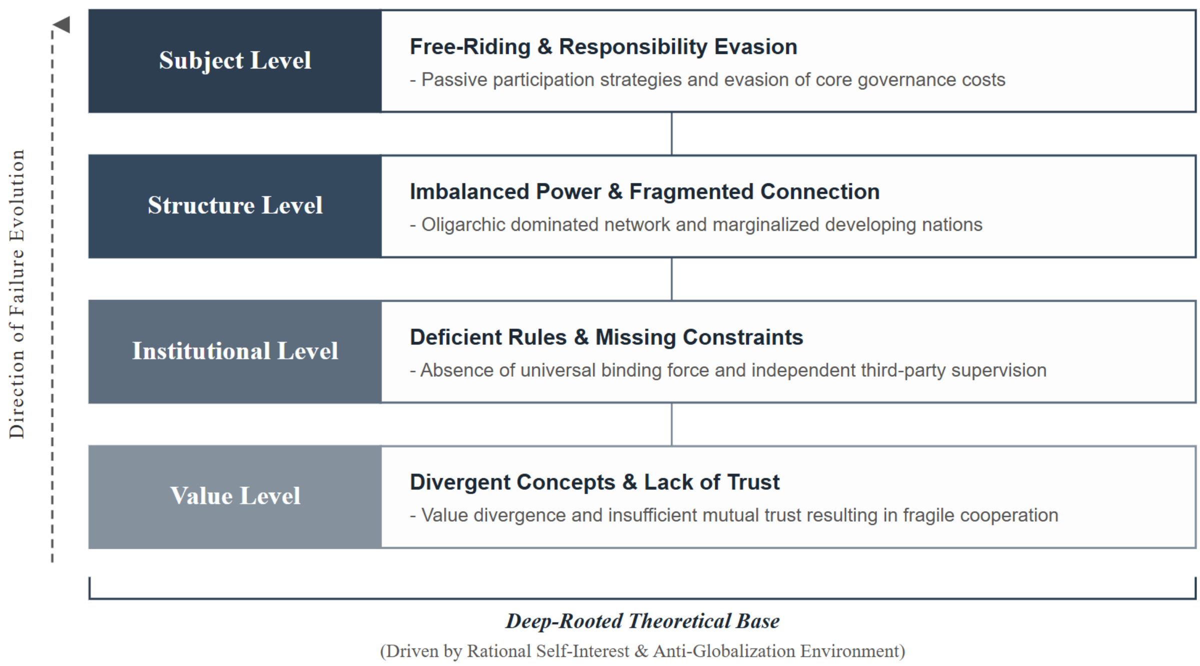
3.3 Institutional Level: Deficient Rules and Missing Supervision Constraints

The global sports governance network lacks a unified mandatory institutional system and independent third-party supervision mechanism. Most governance rules depend on internal conventions of international sports organizations, lacking universal binding force and fair evaluation criteria. No clear benefit distribution mechanism and cost-sharing mechanism have been established among multiple actors. Irregular behaviors such as organizational corruption, commercial monopoly and political intervention cannot be effectively restricted and punished. The absence of institutional incentives and rigid supervision constraints makes it difficult to standardize the behavioral choices of network nodes, further intensifying collective action dilemma and aggravating network collaboration failure.

3.4 Value Level: Divergent Concepts and Lack of Network Trust

Cultural differences, institutional distinctions and value divergence among network nodes lead to inconsistent cognitive orientations toward global sports governance. Western sports governance emphasizes commercialization and liberalization, while developing countries pay more attention to public welfare fairness and cultural inheritance. Such value divergence makes it difficult for network nodes to form consistent governance expectations, further reducing collaborative willingness and exacerbating free-riding motives. Long-term interest gaming and political frictions also result in insufficient mutual trust within the network. Stable cooperative expectations among actors are lacking, making it difficult to maintain long-term and stable collaborative governance relations. The multi-dimensional performance hierarchy of network collaboration failure is presented in Figure 2.

Figure 2. *Multi-dimensional Hierarchical Structure of Network Collaboration Failure in Global Sports Governance*



3.5 Classification of Network Collaboration Failure Types

According to the differences in formation causes and practical manifestations, network collaboration failure in global sports governance can be divided into four categories. The specific classification and characteristics are summarized in Table 1.

Table 1. *Types, Manifestations and Typical Characteristics of Network Collaboration Failure in Global Sports Governance*

Failure Type	Core Manifestation	Typical Characteristics	Root Cause
Interest Gaming Type	Nodes compete for rule-making power and benefit distribution, refuse to compromise	Self-interest priority, lack of overall awareness	Divergent interest demands
Free-riding Evasion Type	Enjoy governance dividends without bearing corresponding costs	Small and medium nodes follow passively	Public goods non-exclusivity
Structural Imbalance Type	Core nodes monopolize power, marginal nodes are excluded	Oligarchic network structure	Unbalanced global sports pattern
Institutional Defect Type	No unified rules, insufficient supervision and punishment	Low institutional binding force	Lack of top-level design

4. Formation Mechanism of Global Sports Governance Network Collaboration Failure Based on Collective Action Dilemma

4.1 Micro Subject Mechanism: Rational Choice of Self-Interest and Behavioral Preference Divergence

From the micro perspective of collective action dilemma, each node in the global sports governance network is a rational interest actor whose behavioral choice is based on cost-benefit calculation. Participating in global sports governance requires the input of time, capital, human resources and political resources, while governance achievements have the attribute of global public goods accessible to all nodes. Under the logic of rational self-interest, most nodes tend to choose free-riding rather than active participation in governance, directly inducing collective action dilemma. In addition, different governance actors hold distinct behavioral preferences: international sports organizations prioritize organizational autonomy and commercial profits; sovereign states focus on national sports interests and international status; sports industry groups pursue market profit maximization. The divergence of behavioral preferences makes it difficult to form unified collective action goals, laying a micro foundation for network collaboration failure.

4.2 Meso Network Mechanism: Node Scale Expansion and Relational Connection Barrier

Collective action dilemma theory holds that the more participants involved in collective affairs, the higher the cost of communication, negotiation and coordination, and the harder it is to reach consistent cooperation decisions. The global sports governance network covers almost all sovereign countries, dozens of international sports federations, and numerous sports social organizations and commercial groups, with huge node quantity and complex hierarchical relations. The expansion of network scale increases coordination costs and hinders unified action formulation. Meanwhile, geographical distance, cultural differences, institutional barriers and political contradictions create obvious relational connection barriers among nodes, leading to fragmented network relations and weak collaborative bonds, which further deteriorate the collective action dilemma.

4.3 Macro Institutional Mechanism: Absence of Incentive Constraints and Lack of Trust Mechanism

The lack of effective institutional incentive and constraint mechanism constitutes the macro institutional root of network collaboration failure. On the one hand, the global sports governance network has no scientific selective incentive system, and active governance actors cannot obtain corresponding institutional rewards, resulting in low participation enthusiasm. On the other hand, there is no rigid punishment mechanism for free-riding, responsibility evasion and irregular behaviors, and the low cost of opportunistic behavior indulges the spread of collective action dilemma. Moreover, long-term interest gaming and political friction lead to the absence of universal trust mechanisms within the network. Without trust as an emotional bond, cooperative willingness among actors remains insufficient, collaborative relations are fragile, and interest games eventually lead to comprehensive network collaboration failure.

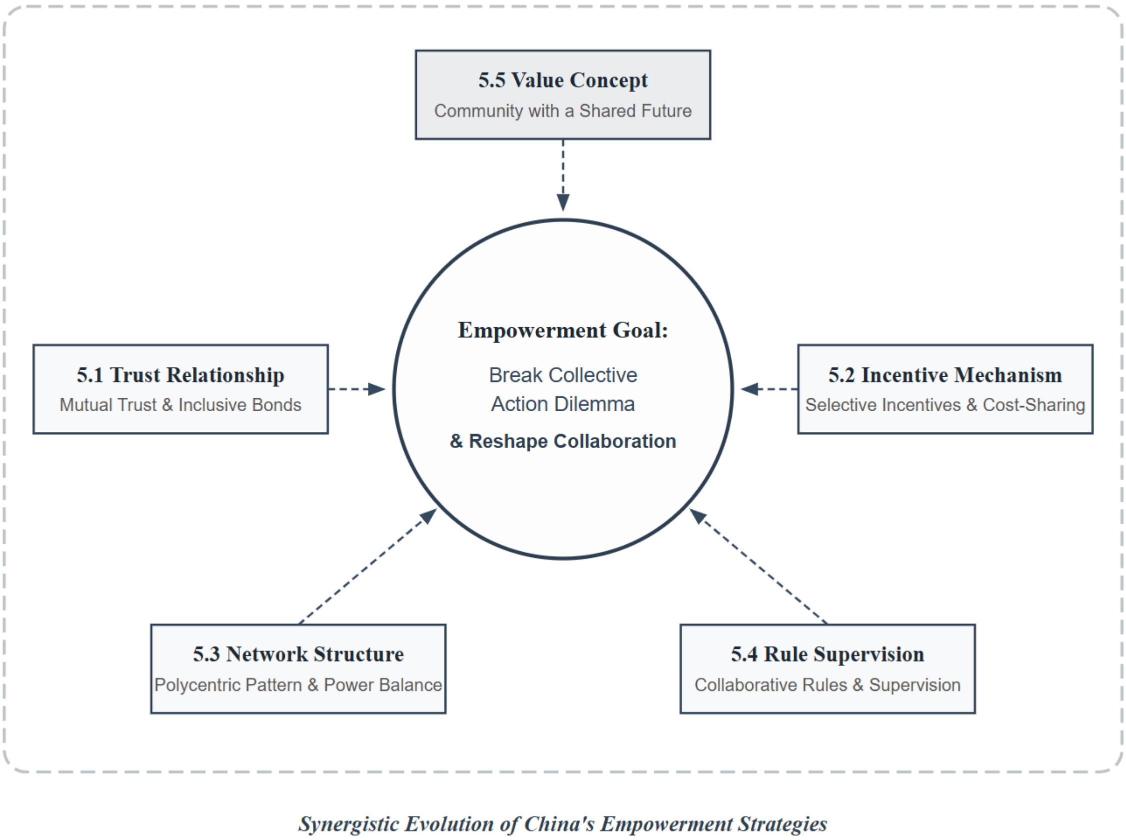
4.4 External Environmental Mechanism: Impact of Anti-Globalization and Political Power Intervention

The rise of anti-globalization and the intensification of great-power games provide external conditions for the deterioration of collective action dilemma. The resurgence of nationalism and unilateralism in some countries leads to deliberate decoupling from the global sports governance system and refusal to participate in multilateral collaborative governance. At the same time, political forces continue to intervene in sports affairs, taking sports rule formulation, event arrangement and anti-doping governance as tools of international political games. This breaks the neutral and autonomous operational logic of global sports governance, disrupts the interest balance and cooperative order of the network, intensifies conflicts among governance actors, and makes collective action dilemma more prominent and network collaboration failure more serious.

5. China's Empowerment Strategy to Resolve Global Sports Governance Network Collaboration Failure

Guided by the vision of a Community with a Shared Future for Mankind and adhering to the principles of equal consultation, win-win cooperation and inclusive development, China can optimize network relations, improve institutional mechanisms and reshape value consensus to construct a multi-dimensional empowerment system. This systematic path helps break the collective action dilemma and resolve the deadlock of network collaboration failure.

Figure 3. *Multi-dimensional Empowerment Strategy Framework for Global Sports Governance*



As illustrated in Figure 3, China's empowerment strategy to resolve the global sports governance network collaboration failure constitutes a multi-dimensional, synergistic framework. The core objective of this framework is to break the collective action dilemma and reshape network collaboration. To achieve this, the strategy is anchored by the value concept of a "Community with a Shared Future for Mankind" (Section 5.5), which provides top-level spiritual guidance. Structurally, it relies on four interconnected pillars: rebuilding mutual trust and inclusive emotional bonds (Section 5.1), designing scientific selective incentives and cost-sharing mechanisms (Section 5.2), optimizing the polycentric pattern to balance power distribution (Section 5.3), and improving collaborative rules with an independent supervision system (Section 5.4). Rather than operating in isolation, these five dimensions form a closed-loop, synergistic evolution mechanism. Together, they address the root causes of network collaboration failure, ranging from rational self-interest to structural imbalance, thereby providing a comprehensive Chinese solution for a more equitable and sustainable global sports governance order.

5.1 Empowerment of Trust Relationship: Build a Mutual Trust and Inclusive Network Emotional Bond

Trust is the core foundation of network collaborative governance and the key to alleviating collective action dilemma. China adheres to the governance concept of harmony and inclusiveness, strengthens sports cultural exchanges and friendly interactions with developing countries, international sports organizations and regional sports groups to eliminate cognitive misunderstanding and cultural estrangement. It actively participates in multilateral sports cooperation platforms such as Belt and Road sports exchange projects, builds diversified communication and dialogue channels, smoothes information transmission among network nodes, reduces information asymmetry, and enhances mutual recognition and trust among governance actors. Meanwhile, China takes the lead in practicing the concept of responsibility sharing and benefit sharing, voluntarily undertaking global sports governance responsibilities, setting a benchmark to restrain free-riding behavior and guiding more stakeholders to participate in collaborative governance.

5.2 Empowerment of Incentive Mechanism: Design a Scientific Selective Incentive and Cost-Sharing System

A reasonable selective incentive system is an effective institutional tool to restrain free-riding and resolve collective action dilemma. China advocates the joint formulation of benefit distribution and cost-sharing rules for global sports governance, adheres to the matching principle of responsibility, right and interest, and ensures that actors who pay governance costs can obtain corresponding political, economic and social returns to mobilize cooperative enthusiasm. It promotes the establishment of a hierarchical incentive mechanism, granting more discourse power, event hosting qualifications and rule-making participation rights to developing countries with active participation, forming positive incentive guidance and reversing the passive free-riding mentality of marginal network nodes. Furthermore, China advocates constructing a fair evaluation system for global sports governance, taking governance contribution, responsibility bearing and collaborative willingness as core evaluation indicators, and linking evaluation results with resource allocation to form a closed-loop long-term incentive and constraint mechanism.

5.3 Empowerment of Network Structure: Optimize the Polycentric Pattern and Balance Network Power Distribution

A balanced network power structure is the structural guarantee to avoid collaborative failure. China unites developing countries and emerging sports forces to promote the reform of international sports organizations, break the oligarchic monopoly of Western powers in rule formulation, event allocation and organizational operation, and elevate the participation and discourse power of developing countries in core governance links to realize balanced network power development. It promotes the construction of a multi-level network collaborative governance system, gives full play to the bridging role of regional sports organizations, smoothes communication channels between core nodes and marginal nodes, breaks the fragmentation of network connection, and forms a collaborative pattern of multi-actor linkage and full-node participation. In addition, China adheres to the principle of separating sports from politics, resists excessive political intervention in global sports affairs, maintains the neutrality and autonomy of network governance operation, and reduces interest game frictions caused by political factors.

5.4 Empowerment of Rule Supervision: Improve Collaborative Rules and Build an Independent Network Supervision System

SSound unified rules and independent third-party supervision form the institutional barrier to restrain opportunistic behavior. China takes the lead in advocating the joint formulation of universal basic norms for global sports governance, standardizing the behavioral boundaries of international sports organizations, sovereign states and commercial sports groups, and forming a rule system recognized by all network nodes. It promotes the establishment of independent third-party supervision and evaluation institutions to break the internal self-supervision limitation of international sports organizations, strengthen supervision over organizational corruption, doping violations, match-fixing and rule monopoly, and impose rigid punishment on irregular behaviors to raise the cost of opportunistic actions. China also advocates balancing the relationship between organizational autonomy and public governance, clarifying the autonomy boundary of international sports organizations, avoiding governance absence caused by excessive autonomy, and forming a governance pattern with standardized rules, effective supervision and orderly operation.

5.5 Empowerment of Value Concept: Lead Network Consensus with the Community with a Shared Future for Mankind

Value consensus serves as the spiritual guidance to integrate diverse interest demands and alleviate collective action dilemmas. China takes the vision of a Community with a Shared Future for Mankind as the core value guidance of global sports governance, advocates the concepts of equality, inclusiveness, cooperation and win-win, and breaks the zero-sum game mentality and hegemonic governance logic embedded in the traditional global sports governance network. It advocates that all countries and sports organizations share sports development achievements, jointly undertake governance responsibilities, collectively respond to global sports crises such as doping and commercial monopoly, and jointly build a fair, reasonable, inclusive and sustainable global sports governance order. The strategy guides all network nodes to transcend narrow self-interest, focus on global sports public interests and long-term development, and lay a solid value foundation for eliminating free-riding and realizing long-term stable network collaborative governance.

6. Conclusion and Research Prospects

6.1 Research Conclusion

Against the background of anti-globalization and international pattern restructuring, the global sports governance network composed of sovereign states, international sports organizations and global sports industry groups is deeply trapped in collective action dilemmas, presenting multi-dimensional network collaboration failure at the levels of actor responsibility, structural power, institutional rules and value cognition. The formation of collaborative failure is driven by four interrelated mechanisms: micro rational self-interest choice of network nodes, meso node scale expansion and relational connection barriers, macro absence of incentive and constraint institutions, and external impact of anti-globalization and political intervention.

Collective action dilemma constitutes the core root of network collaboration failure in global sports governance, while unreasonable polycentric power structure and deficient institutional rules act as important inducing conditions. Guided by the vision of a Community with a Shared Future for Mankind, China can effectively alleviate collective action dilemma and break the deadlock of network collaboration failure through five systematic empowerment paths: trust relationship empowerment, incentive mechanism empowerment, network structure empowerment, rule supervision empowerment and value concept empowerment. These paths promote the balanced reconstruction of the global sports governance network, realize the transformation from interest game to collaborative co-governance, and provide a feasible Chinese solution for the reform and optimization of the global sports governance system.

6.2 Research Limitations and Prospects

This study mainly adopts theoretical analysis and literature research methods to explore network collaboration failure and China's empowerment strategies in global sports governance, lacking empirical quantitative measurement of network node connection strength and collaborative efficiency. Future research can combine social network analysis methods, adopt empirical data to measure the structural characteristics and collaborative level of the global sports governance network, and further verify the formation mechanism of collaborative failure.

In addition, with the continuous evolution of international political and economic patterns and the rapid development of digital sports technology, new problems and challenges will continue to emerge in the global sports governance network. Subsequent research can focus on the impact of digitalization and intelligent technology on network collaborative governance, explore new paths to resolve collective action dilemmas in the digital era, and further enrich and expand the research system of global sports network governance.

Declarations

Funding: This research received no project funding support.

Conflict of interest: The authors report there are no competing interests to declare.

References

Chadwick, S. (2022). From utilitarianism and neoclassical sport management to a new geopolitical economy of sport. European Sport Management Quarterly, – 22(5). – P. 691–713. URL: https://doi.org/10.1080/16184742.2022.2032251

Dowling, M., Leopkey, B., & Smith, L. (2018). Governance in sport: A scoping review. Journal of sport management, – 32(5). – P. 438–451. URL: https://doi.org/10.1123/jsm.2018-0032

Kihl, L. A., Skinner, J., & Engelberg, T. (2017). Corruption in sport: Understanding the complexity of corruption. European Sport Management Quarterly, – 17(1). – P. 1–5. URL: https://doi.org/10.1080/16184742.2016.1257553

Lee, K. M., & Hassim, J. Z. (2023). Governance in the socio-cultural role of sports. In Globalisation, human rights, sports, and culture (P. 129–155). Cham: Springer Nature Switzerland. URL: https://doi.org/10.1007/978-3-031-38457-8_7

Peeters, T., & Szymanski, S. (2014). Financial fair play in European football. Economic policy, – 29(78). – P. 343–390. URL: https://doi.org/10.1111/1468-0327.12031

Pielke Jr, R., & Boye, E. (2019). Scientific integrity and anti-doping regulation. International Journal of Sport Policy and Politics, – 11(2). – P. 295–313. URL: https://doi.org/10.1080/19406940.2019.1596968

Cao, L. (2024). The Uniformity and Diversity of Anti-Doping Rules in International Sports Organizations: A Global Governance Perspective. Cultura: International Journal of Philosophy of Culture and Axiology, – 21(4). – P. 1–12. URL: https://doi.org/10.70082/cijpca.v21i4.809

Kusumasari, B., Sajida, S., Santoso, A. D., & Fauzi, F. Z. (2024). The Reinventing of public administration in the new hybrid world. Teaching Public Administration, – 42(2). – P. 206–229. URL: https://doi.org/10.1177/01447394231191927

Chappelet, J. L. (2020). The unstoppable rise of athlete power in the Olympic system. Sport in Society, – 23(5). – P. 795–809. URL: https://doi.org/10.1080/17430437.2020.1748817

Sugden, J. T., Sheps, S., & Sugden, J. (2023). Assessing governance without government: A proposal for the International Council of Sport Governance. International Journal of Sport Policy and Politics, – 15(3). – P. 473–491. URL: https://doi.org/10.1080/19406940.2023.2215809

Dietl, H., Özdemir, A., & Rendall, A. (2020). The role of facial attractiveness in tennis TV-viewership. Sport Management Review, – 23(3). – P. 521–535. URL: https://doi.org/10.1016/j.smr.2019.04.004

De Bock, T., Scheerder, J., Theeboom, M., De Clerck, T., Constandt, B., & Willem, A. (2023). Sport-for-All policies in sport federations: an institutional theory perspective. European

Sport Management Quarterly, – 23(5). – P. 1328–1350. URL: https://doi.org/10.1080/16184742.2021.2009897
Burton, N., Chadwick, S., Widdop, P., & Bond, A. (2024). The geopolitical economy of major sporting events–where business and management meets politics and geography. In Research Handbook on Major Sporting Events (P. 60–73). Edward Elgar Publishing. URL: https://doi.org/10.4337/9781800885653.00012
Fahlen, J., & Stenling, C. (2020). Sport policy and politics in an era of global crisis. International Journal of Sport Policy and Politics, – 12(4). – P. 515–525. URL: https://doi.org/10.1080/19406940.2020.1832136
Peng, Q., Dickson, G., Scelles, N., Grix, J., & Brannagan, P. M. (2020). Esports governance: Exploring stakeholder dynamics. Sustainability, – 12(18). – 7361 p. URL: https://doi.org/10.3390/su12187361
Dowling, M., Leopkey, B., & Smith, L. (2018). Governance in sport: A scoping review. Journal of sport management, – 32(5). – P. 438–451. URL: https://doi.org/10.1123/jsm.2018-0032
Shilbury, D., O'Boyle, I., & Ferkins, L. (2016). Towards a research agenda in collaborative sport governance. Sport management review, – 19(5). – P. 479–491. URL: https://doi.org/10.1016/j.smr.2016.04.004
Trivellato, B., Cristofoli, D., Galizzi, G., Sicilia, M., & Steccolini, I. (2025). Do networks get emotional? The role of leaders' emotions for (network) success. Public Management Review, – 27(4). – P. 956–980. URL: https://doi.org/10.1080/14719037.2023.2270484
Lubell, M., & Morrison, T. H. (2021). Institutional navigation for polycentric sustainability governance. Nature Sustainability, – 4(8). – P. 664–671. URL: https://doi.org/10.1038/s41893-021-00707-5
Meier, H. E., & Garcia, B. (2015). Protecting private transnational authority against public intervention: FIFA's power over national governments. Public Administration, – 93(4). – P. 890–906. URL: https://doi.org/10.1111/padm.12208
Zheng, J., Chen, S., Tan, T. C., & Lau, P. W. C. (2018). Sport policy in China (mainland). International journal of sport policy and politics, – 10(3). – P. 469–491. URL: https://doi.org/10.1080/19406940.2017.1413585

submitted 12.05.2026;
accepted for publication 26.05.2026;
published 31.07.2026

Contact: 13263625222@163.com

European Journal of Economics and Management Sciences 2026, No 3
ISSN 2310-5690

PREMIER Publishing
ppublishing.org

Section 2. Finance, monetary circulation and credit

DOI:10.29013/EJEMS-26-3-15-20

ARTIFICIAL INTELLIGENCE IN DETECTING FINANCIAL AND TAX REPORTING ANOMALIES: EVIDENCE FROM ALBANIAN ENTERPRISES

Mikel Alla [1]

[1] Owner and Certified Accountant Accounting & Fiscal Expertise Studio, Elbasan, Albania; Lecturer in Accounting, Auditing and Taxation University of Elbasan "Aleksandër Xhuvani" (UE), Albania; Lecturer in Accounting, Auditing and Taxation University "Aleksandër Moisiu" Durrës (UAMD), Albania

Cite: *Mikel A. (2026). Artificial Intelligence in Detecting Financial and tax Reporting Anomalies: Evidence From Albanian Enterprises. European Journal of Economics and Management Sciences 2026, No 3.* https://doi.org/10.29013/EJEMS-26-3-15-20

Abstract

The increasing digitalization of accounting systems and tax administration has created new opportunities for applying Artificial Intelligence (AI) in financial and tax risk assessment. This study investigates the effectiveness of Machine Learning techniques in detecting anomalies in financial and tax reporting among Albanian enterprises.

The analysis is based on a sample of 100 enterprises operating in the trade, manufacturing, construction, and service sectors. Financial and fiscal indicators were examined using descriptive statistics, multiple linear regression, Random Forest classification, and Isolation Forest anomaly detection.

The results show that the regression model explains 83.6% of the variation in Fiscal Risk Score ($R^2 = 0.836$). Profit Margin and Operating Cash Flow exhibit significant negative effects on fiscal risk, while the Debt-to-Assets Ratio demonstrates a positive relationship. Furthermore, the Random Forest model achieved an accuracy rate of 86.7% and an AUC value of 0.98, whereas the Isolation Forest algorithm identified 19 enterprises with anomalous reporting characteristics.

The findings demonstrate that Artificial Intelligence can significantly improve anomaly detection and fiscal risk assessment, providing valuable support for auditors, tax authorities, and policymakers.

Keywords: *Artificial Intelligence; Machine Learning; Anomaly Detection; Fiscal Risk Assessment; Financial Reporting; Tax Reporting; Random Forest; Isolation Forest*

1. Introduction

The rapid digital transformation of accounting and taxation has significantly increased the volume and complexity of financial and fiscal information. Consequently, traditional audit and compliance procedures face growing challenges in identifying irregular reporting patterns and assessing fiscal risk efficiently (OECD, 2023).

Artificial Intelligence (AI) and Machine Learning techniques provide new opportunities for analyzing large datasets and detecting anomalies that may indicate reporting irregularities, fraud, or tax non-compliance (Russell & Norvig, 2021). Previous studies suggest that Machine Learning algorithms can improve risk assessment, fraud detection, and compliance monitoring by identifying patterns that remain difficult to detect using conventional statistical methods (Bolton & Hand, 2002; Phua et al., 2010).

Despite increasing international interest in AI applications, empirical evidence from emerging economies remains limited. In Albania, the implementation of fiscalization reforms and digital reporting systems has expanded substantially, creating favorable conditions for the application of Artificial Intelligence in financial and tax risk management.

Therefore, this study aims to evaluate the effectiveness of Machine Learning techniques in identifying anomalies in financial and tax reporting among Albanian enterprises. The research combines econometric analysis with Random Forest and Isolation Forest algorithms to assess fiscal risk determinants and anomaly detection performance.

2. Research method

This study employs a quantitative research design to evaluate the effectiveness of Artificial Intelligence techniques in detecting anomalies in financial and tax reporting among Albanian enterprises. The analytical framework combines conventional statistical methods with Machine Learning algorithms to identify fiscal risk determinants and anomalous reporting patterns.

The empirical analysis is based on a sample of 100 enterprises operating in the trade, manufacturing, construction, and service sectors. Financial and tax-related data for the fiscal year 2024 were obtained from the database of the General Directorate of Taxes (GDT) of Albania. The dataset was processed and validated to ensure consistency, accuracy, and comparability across all observations.

The dependent variable is Fiscal Risk Score (RF), while the explanatory variables include Operating Cash Flow (CF), VAT-to-Turnover Ratio (TVSHR), Profit Margin (MF), Debt-to-Assets Ratio (DA), and Employee Productivity (PP). These indicators were selected based on previous research examining financial performance, tax compliance, and fiscal risk assessment (Bolton & Hand, 2002; James & Alley, 2004; Kirchler, 2007).

Table 1. *Definition of Variables*

Variable	Description	Type
RF	Fiscal Risk Score	Dependent
CF	Operating Cash Flow	Independent
TVSHR	VAT-to-Turnover Ratio	Independent
MF	Profit Margin	Independent
DA	Debt-to-Assets Ratio	Independent
PP	Employee Productivity	Independent

Note. Source: Author's calculations

The study tests the following hypotheses:

H1: Financial and fiscal indicators significantly influence Fiscal Risk Score.

H2: Operating Cash Flow negatively affects Fiscal Risk Score.

H3: The VAT-to-Turnover Ratio negatively affects Fiscal Risk Score.

H4: Profit Margin negatively affects Fiscal Risk Score.

H5: Artificial Intelligence techniques effectively identify anomalies and classify fiscal risk.

To evaluate the determinants of fiscal risk, a multiple linear regression model was estimated:

$$RF = \beta_0 + \beta_1 CF + \beta_2 TVSHR + \\ + \beta_3 MF + \beta_4 DA + \beta_5 PP + \varepsilon$$

In addition, two Machine Learning algorithms were employed. Random Forest was used as a supervised learning model for fiscal risk classification (Breiman, 2001), while Isolation Forest was applied as an unsupervised anomaly detection technique (Liu et al., 2008). These algorithms were selected because of their ability to identify complex relationships and unusual observations within financial datasets.

The validity of the regression model was assessed using Variance Inflation Factor (VIF), Shapiro–Wilk, Jarque–Bera, Breusch–Pagan, and Durbin–Watson tests. The predictive performance of the Machine Learning models was evaluated through Accuracy, Precision, Recall, F1-Score, and Area Under the Curve (AUC) metrics.

3. Results analysis

3.1 Descriptive Statistics

Table 2 presents the descriptive statistics of the study variables. The results indicate considerable variation among enterprises regarding financial performance, tax reporting behavior, and fiscal risk exposure. Fiscal Risk Score has a mean value of 28.77 and ranges from 0.20 to 79.50, suggesting substantial differences in risk profiles across the sample. Similarly, Cash Flow and Employee Productivity exhibit relatively high dispersion, reflecting heterogeneous operational and financial conditions among enterprises.

Table 2. *Descriptive Statistics of the Study Variables*

Variable	Mean	Std. Dev.	Min	Max
Fiscal Risk Score	28.77	19.29	0.20	79.50
Cash Flow	14.86	29.99	–47.50	139.20
VAT-to-Turnover Ratio	10.09	5.09	1.00	20.00
Profit Margin	5.80	5.97	–11.00	22.91
Debt-to-Assets Ratio	54.87	21.62	11.22	99.00
Employee Productivity	21.47	32.57	0.22	199.20

Note. Source: Author’s calculations

3.2 Determinants of Fiscal Risk

The Random Forest model was used to identify the variables that contribute most significantly to fiscal risk classification. As presented in Table 3, Cash Flow (0.341) and Profit Margin (0.243) emerge as the most influential predictors, highlighting the importance of liquidity and profitability in explaining fiscal risk.

Table 3. *Variable Importance in the Random Forest Model*

Variable	Importance Score	Rank
Cash Flow	0.341	1
Profit Margin	0.243	2
Employee Productivity	0.168	3
VAT-to-Turnover Ratio	0.143	4
Debt-to-Assets Ratio	0.105	5

Note. Source: Author’s calculations

The correlation analysis further confirms these relationships. Fiscal Risk Score is negatively associated with Cash Flow (r = –0.36), VAT-to-Turnover Ratio (r = –0.51), and Profit Margin (r = –0.63), while a positive relationship is observed with Debt-to-Assets Ratio (r = 0.54). The strongest negative correlation is identified between Fiscal Risk Score and Profit Margin, suggesting that more profitable enterprises generally exhibit lower fiscal risk.

Table 4. *Pearson Correlation Matrix*

Variable	RF	CF	TVSHR	MF	DA	PP
RF	1.000	–0.36	–0.51	–0.63	0.54	0.44

Note. Source: Author's calculations

To evaluate the simultaneous effects of the explanatory variables, a multiple linear regression model was estimated. The results indicate that Cash Flow, VAT-to-Turnover Ratio, and Profit Margin negatively affect Fiscal Risk Score, whereas Debt-to-Assets Ratio and Employee Productivity exert positive effects. Profit Margin appears as the strongest predictor ($\beta = -1.417$), emphasizing the importance of profitability in reducing fiscal risk.

Table 5. *Multiple Regression Results*

Variable	Coefficient	Std. Error	t-Statistic	p-value
Cash Flow	–0.165	0.031	–5.339	<0.001
VAT-to-Turnover Ratio	–1.105	0.173	–6.401	<0.001
Profit Margin	–1.417	0.151	–9.403	<0.001
Debt-to-Assets Ratio	0.299	0.039	7.661	<0.001
Employee Productivity	0.192	0.028	6.774	<0.001

Note. Source: Author's calculations

Model Statistics: $R^2 = 0.836$; Adjusted $R^2 = 0.827$; F = 95.97; Durbin–Watson = = 2.122.

The model explains 83.6% of the variation in Fiscal Risk Score, indicating strong explanatory power. Diagnostic tests confirmed the validity of the regression assumptions, with no evidence of serious multicollinearity, heteroskedasticity, or autocorrelation.

3.3 Artificial Intelligence Performance and Anomaly Detection

The effectiveness of Artificial Intelligence techniques was assessed through Random Forest classification and Isolation Forest anomaly detection. The Random Forest model achieved an accuracy rate of 86.7% and an AUC value of 0.98, indicating excellent classification performance. In addition, the Isolation Forest algorithm identified 19 anomalous enterprises, representing 19% of the sample.

Table 6. *Artificial Intelligence Performance Metrics*

Indicator	Value
Random Forest Accuracy	86.7%
AUC	0.98
Detected Anomalies	19
Anomaly Rate	19.0%

Note. Source: Author's calculations

These findings demonstrate that Machine Learning techniques can effectively support fiscal risk assessment and anomaly detection. The high classification accuracy and the successful identification of anomalous observations provide strong evidence regarding the practical applicability of Artificial Intelligence in financial and tax reporting analysis.

4. Conclusion and discussion

This study examined the application of Artificial Intelligence techniques in detecting anomalies in financial and tax reporting among Albanian enterprises. By integrating econometric analysis with Machine Learning algorithms, the study developed a framework for fiscal risk assessment and anomaly detection.

The empirical findings confirm that financial and fiscal indicators significantly influence Fiscal Risk Score. The regression model explained 83.6% of the variation in fiscal risk ($R^2 = 0.836$), indicating strong explanatory power. Profit Margin, Operating Cash Flow, and the VAT-to-Turnover Ratio were negatively associated with fiscal risk, while the Debt-to-Assets Ratio exhibited a positive relationship, suggesting that highly leveraged enterprises are more exposed to fiscal risk.

The Artificial Intelligence models demonstrated high predictive performance. The Random Forest algorithm achieved an accuracy rate of 86.7% and an AUC value of 0.98, while the Isolation Forest algorithm identified 19 anomalous enterprises, representing 19% of the sample. In addition, Cash Flow and Profit Margin emerged as the most influential predictors of fiscal risk within the Random Forest model.

These findings provide strong empirical evidence that Artificial Intelligence can effectively support anomaly detection, fiscal risk assessment, and risk-based monitoring systems. The integration of Machine Learning techniques into auditing and tax administration processes may improve risk profiling, enhance compliance monitoring, and contribute to more efficient allocation of control resources.

Despite its contributions, the study is limited by its sample of 100 enterprises and its focus on the Albanian business environment. Future research may expand the sample size, incorporate longitudinal data, and evaluate additional Artificial Intelligence techniques such as XGBoost, Gradient Boosting, and Deep Learning models.

Overall, the study demonstrates that Artificial Intelligence represents a valuable tool for modern financial and tax risk management, with significant potential to strengthen auditing practices and support the digital transformation of tax administration.

References

Bolton, R. J., & Hand, D. J. (2002). Statistical fraud detection: A review. Statistical Science.

Breiman, L. (2001). Random forests. Machine Learning.

Brown-Liburd, H., Issa, H., & Lombardi, D. (2015). Behavioral implications of Big Data's impact on audit judgment and decision making. Accounting Horizons.

Chandola, V., Banerjee, A., & Kumar, V. (2009). Anomaly detection: A survey. ACM Computing Surveys.

Cressey, D. R. (1953). Other People's Money: A Study in the Social Psychology of Embezzlement. Free Press.

Goodfellow, I., Bengio, Y., & Courville, A. (2016). Deep Learning. MIT Press.

Issa, H., Sun, T., & Vasarhelyi, M. A. (2016). Research ideas for artificial intelligence in auditing: The formalization of audit and workforce supplementation. Journal of Emerging Technologies in Accounting.

James, S., & Alley, C. (2004). Tax compliance, self-assessment and tax administration. Journal of Finance and Management in Public Services.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. Journal of Financial Economics.

Kirchler, E. (2007). The Economic Psychology of Tax Behaviour. Cambridge University Press.

Kokina, J., & Davenport, T. H. (2017). The Emergence of Artificial Intelligence: How Automation Is Changing Auditing. Journal of Emerging Technologies in Accounting.

Liu, F. T., Ting, K. M., & Zhou, Z. H. (2008). Isolation Forest. Proceedings of the IEEE International Conference on Data Mining.
National Accounting Council of Albania. (n.d.). National Accounting Standards. Tirana, Albania.
OECD. (2023). Tax Administration 2023: Comparative Information on OECD and Other Advanced and Emerging Economies. OECD Publishing.
Phua, C., Lee, V., Smith-Miles, K., & Gayler, R. (2010). A Comprehensive Survey of Data Mining-Based Fraud Detection Research. Artificial Intelligence Review.
Republic of Albania. (2008). Law No. 9920, dated 19 May 2008, "On Tax Procedures in the Republic of Albania", as amended. Tirana, Albania.
Republic of Albania. (2014). Instruction No. 24, dated 2 September 2014, "On Tax Procedures in the Republic of Albania", as amended. Ministry of Finance, Tirana, Albania.
Republic of Albania. (2019). Law No. 87/2019 "On the Invoice and Turnover Monitoring System". Tirana, Albania.
Republic of Albania. (2020). Instruction No. 16, dated 3 April 2020, "On the Invoice and Turnover Monitoring System". Ministry of Finance and Economy, Tirana, Albania.
Republic of Albania. (2020). Instruction No. 20, dated 1 June 2020, "On the Basic and Technical Elements, Issuance and Exchange of Electronic Invoices and Accompanying Invoices". Ministry of Finance and Economy, Tirana, Albania.
Republic of Albania. (2023). Law No. 29/2023 "On Income Tax". Tirana, Albania.
Republic of Albania. (2024). Instruction on the Implementation of Law No. 29/2023 "On Income Tax". Ministry of Finance, Tirana, Albania.
Russell, S., & Norvig, P. (2021). Artificial Intelligence: A Modern Approach (4th ed.). Pearson.
Sutton, S. G., Holt, M., & Arnold, V. (2016). The Reports of My Death Are Greatly Exaggerated: Artificial Intelligence Research in Accounting. International Journal of Accounting Information Systems.
Vasarhelyi, M. A., Kogan, A., & Tuttle, B. M. (2015). Big Data in Accounting: An Overview. Accounting Horizons.

submitted 05.06.2026;
accepted for publication 19.06.2026;
published 31.07.2026

Contact: kontabelfiskale@gmail.com

European Journal of Economics and
Management Sciences 2026, No 3
ISSN 2310-5690

PREMIER Publishing
ppublishing.org

Section 3. Management of innovations

DOI:10.29013/EJEMS-26-3-21-26

A COMPREHENSIVE, MULTI-DIMENSIONAL FRAMEWORK FOR MEASURING INNOVATION INVESTMENT RETURNS IN HIGHER EDUCATION

Ganjali Jeyhun Tahir [1]

[1] Azerbaijan Technical University

Cite: *Ganjali Jeyhun Tahir. (2026). A Comprehensive, Multi-Dimensional Framework For Measuring Innovation Investment Returns in Higher Education. European Journal of Economics and Management Sciences 2026, No 3.* https://doi.org/10.29013/EJEMS-26-3-21-26

Abstract

The problem under discussion is one of the main problems in institutional economics – assessing the actual Return on Investment (ROI) from innovation financing in contemporary research universities. Current models are based on standard approaches and techniques of business accounting, which mainly rely on immediate licensing fees or sale of intellectual property patents.

However, since traditional auditing frameworks analyze technology transfer, venture-backed spin-offs, and industry collaborations as separate and independent pillars of innovation, they overlook the complex cross-fertilization effects and hidden economic multipliers inherent to the academic ecosystem. To remedy this systemic deficiency in analysis, the present article develops a sophisticated composite model that uses multi-criteria mathematics (Integrated University Return on Investment).

In addition to the tangible financial income, our model incorporates qualitative proxies that estimate the attraction of venture capital in the region, cluster formation, ecosystem development, and technology partnerships with corporations.

Our extensive scenarios and detailed mathematical analysis demonstrate how universities can systematically prove their socioeconomic value. Thus, this article offers a concrete set of recommendations for academic administrators, institutional investors, and policy makers to strategically allocate capital, reshape KPIs, and build regional competitiveness.The dissemination of information through teaching and the generation of new knowledge through unbounded and basic scientific investigation were considered two essential functions of universities globally throughout history.

Keywords: *Higher Education, Innovation ROI, University Management, Technology Transfer, Venture Capital, Economic Impact, Research Commercialization, Bayh-Dole Act, Strategic KPIs*

Literature Review

A massive change in the balance of power occurred during the latter decades of the 20th century as a consequence of legislative developments such as the Bayh-Dole Act of 1980 in America and similar policies relating to the privatization of knowledge in several other European and Asian nations. The Third Mission was born out of this economic transformation; it refers to the purposeful deployment of academic expertise in addressing socio-economic problems in the area and enhancing its economic conditions.

Research laboratories in academia are funded by governments, industry partners, and private foundations with the clear aim of producing output that would be used to enhance the value chain of industries, generate employment that requires a high level of skills, and develop vibrant communities of startups with venture capital backing.

Despite this massive shift in institutional goals, the metrics used to track and evaluate success have remained deeply conservative. Many universities continue to rely upon conventional corporate models of accounting, such as NPV or IRR, in assessing their innovation facilities. Such models are based on the corporate model of research and development, where timing is predetermined, market needs are known, and IP stays fully owned by a single corporation. Using such metrics in the context of a university environment is highly problematic. Firstly, academic research has unpredictable timetables. For example, a discovery in the field of biotechnology or quantum physics may take up to ten years of initial investigation, verification, and regulation before the product sells in the market. Secondly, university research is not expected to provide direct and simple monetary gains to the original laboratory that produced them. This approach has created an environment where patenting activities that are defensive have been heavily incentivized. Among the techniques was building extensive patent libraries of patents with low value that created very little commercial interest but incurred high maintenance costs. Through the adoption of a modern and holistic approach, the Trademark Office (TTO) can now be seen as a catalyst of business expansion rather than just a repository of legally binding documentation. In terms of intellectual property, forward-looking TTOs focus more on developing flexible, strategic framework rather than just looking for license royalties. Flexible approaches will enable innovations at early stages to enter external corporate portfolios or ventures effortlessly due to the emphasis on long-term relationship-building and ecosystem expansion.

1.1 Mathematical Modeling and Component Isolation

To accurately measure the combined impact of these three pillars, we reject single-variable financial metrics in favor of an Integrated University Return on Investment model ($I\text{-}ROI_{univ}$). This model treats innovation return as a multi-dimensional composite index, aggregating direct financial returns, ecosystem capital growth, and industrial collaboration value. The primary mathematical model is formulated as follows:

$$I\text{–}ROI_{univ} = \alpha \cdot (F_R/I_{tot}) + \beta \cdot (E_{cap}/I_{tot}) + + \gamma \cdot (S_{ind}/I_{tot})$$

Where the variables and structural parameters are defined through the following definitions:

- I_{tot} represents the total capital invested by the university over a specific time horizon (Δt). This includes TTO operating budgets, incubator overheads, internal proof-of-concept seed binds, and dedicated innovation facilities.
- F_R represents the Net Financial Return, aggregating all direct cash flows:

$$F_R = \Sigma R_{royalty} + \Sigma C_{equity\ exits} + \Sigma G_{licensing\ fees} - \Sigma L_{patent\ maintenance}$$

- E_{cap} represents the Ecosystem Capital metric, capturing external market validations:

$$E_{cap} = \Sigma C_{funding\ raised} + \Sigma V_{spin\ off\ valuation\ equity} \cdot \theta_{equity\ holding}$$

- E_{cap} represents the Industrial Synergy factor, quantifying co-investment streams:

$$S_{ind} = \Sigma M_{contract\_research} + \Sigma E_{in\_kind\_donations} + \Sigma F_{endowed\_chairs}$$

- α, β, γ are strategic weighting coefficients that must satisfy tlie nonnalizing condition: $\alpha + \beta + \gamma = 1$. These weights prevent arbitrary metrics by allowing institutions to tune the model to their unique strategic mandates.

1.2 Calibrating the Weighting Coefficients

The ability to vary the weighting coefficients is key to the applicability of this model. The weighting given to the factors β and γ would be higher in a land-grant or regional university, for which its mission is the economic development of the region. On the other hand, in a private university which is elite and which has a wide range of patents internationally, weighting may favor α. Thus, while keeping the same language, the weights can be varied.

1.3 Data Mapping Across the Innovation Lifecycle

For the success of this model, universities need to move away from fragmented data gathering and implement the innovative analytics model instead. The relationship between the data points and the asset life cycle is presented in (Table 1).

Table 1. *Holistic Metric Mapping Matrix for University Innovation*

Strategic Axis	Primary Quantitative Inputs	Proxy Qualitative Indicators	Ecosystem Asset Class
Tech Transfer Office	Licensing royalties (€) Milestone cash receipts Legal recovery wins	Patent citation rates Technology Readiness Level (TRL) International co-filings	Tangible Direct Liquid Revenue
Academic Venture Hub	Follow-on VC capital raised Angel investment tranches M&A transaction sizes	Employment headcounts Regional workspace footprint Industry awards won	Intangible/Illiquid Equity Capital
Corporate Partnerships	Sponsored research volume Joint equipment funding Commercial consulting fees	Shared scientific papers Corporate-alumni pipelines Faculty advisory boards	Recurring Operational Sinergy

A major roadblock when tracking these metrics is data latency. Patent royalties can take up to seven years to become meaningful, and startup equity valuations can remain completely illiquid until an acquisition or IPO occurs.

1.4 Baseline Parameters of the Simulation Model

To prove the real-world utility of the integrated framework, we run an empirical simulation based on a mid- sized, public research university specializing in engineering and life sciences. The baseline financial parameters are fixed as follows:

- **Technology Transfer Performance:** The university secured 45 active licensing agreements, yielding a cumulative diiect royalty stream of €2,500,000 over the five-year evaluation period.
- **Startup Spin-off Performance:** The university incubator launched 12 high-tech spin-offs. Combined, these companies raised €8,500,000 in early-stage venture capital. The university holds an average 5% founders' equity position across these entities, which have a collective market valuation of €20.000.000.
- **Industrial Collaboration Performance:** The university signed multiple contract research agreements with international aerospace and pharmaceutical firms, bringing in €6,000,000 in direct R&D funding and €2,000.000 in high-end laboratory equipment donations
- **Total Innovation Investment (I_{tot}):** €10,000,000 distributed over a five-year lifecycle. This covers TTO expansion (€3M), incubator construction (€4M), and laboratory equipment matching grants (€3M).

1.5 Comparative Analysis: Traditional Accounting vs. I-ROI

When analyzed using traditional financial criteria, the output shows that this innovation center is not a successful one.

This is because, from an auditing perspective, only direct monetary gains versus overall expenditure are considered when analyzing such institutions: ROI = €2,500,000 / €10,000,000 = 25%. In other words, this indicates that the university has incurred losses of 75% of its investments.

However, when we apply the proposed integrated model with balanced strategic weights ($\alpha = 0.4$, $\beta = 0.3$, $\gamma = 0.3$), we reveal the hidden value generated across the ecosystem:

$$I\text{–}ROI_{univ} = 0.4 \cdot (2.5M / 10M) + 0.3 \cdot (8.5M + [20M \cdot 0.05]) / 10M + 0.3 \cdot (6.0M + 2.0M) / 10M$$
$$I\text{–}ROI_{univ} = 0.4 \cdot (0.25) + 0.3 \cdot (0.95) + 0.3 \cdot (0.80) = 0.10 + 0.285 + 0.24 = 0.625$$

When calculated as a total performance index against baseline capital efficiency, this yields a verified systemic return of 162.5%. Table 2 details the profound differences between these two evaluation methods.

The key barrier to the integration of innovation in the context of strategic innovation lies not in the technology or mathematics involved, but rather in culture, the mismatch of academia and commerce in the field of research. An academic tradition involves the generation of new knowledge, independent research, and prompt publication in scientific journals.

Meanwhile, the culture in business is about market testings, technology positioning, speedy implementation, and confidentiality. When cultures collide, innovation stalls. The faculty at colleges or universities might view the commercialization phase as a deviation from the pure academic pursuit or even as posing conflicts of interest. Only by addressing concerns related to risk management can institutions overcome this type of resistance.

Table 2. *Comparative Analysis of Institutional Assessment Outputs*

Analytical Dimension	Legacy Financial Model	Integrated Systemic Model (I-ROI)
Primary Data Scope	Direct liquid inflows only.	Direct cash + external venture backing + +industrial co-investment.
Calculated Output	25% absolute return (Negative net yield).	162.5% systemic return (Highly positive multiplier).
Administrative Direction	Reduce budgets, cut incubator staff, limit patent risk.	Expand seed fund capital, build deeper industry alliances.
Strategic Outcome	Ecosystem collapse, loss of elite talent, stagnant local industry.	Regional cluster leadership, top-tier talent attraction, sustained growth.

In order for an integrated innovation model to be sustainable, it should be deeply rooted within the university's incentive structures, such as the promotion and tenure processes. In many tier one research universities, the tenure committee selects candidates on a basis of just three classic criteria: total amount of grants obtained, publications in peer-reviewed journals, and evaluations of classroom performance.

1.6 Phase-Based Implementation Roadmap

Transitioning an institution to an integrated innovation framework requires a structured, multi-year plan. Table 3 outlines the tactical implementation roadmap for university leadership.

As a university moves to commercialize itself, it must establish clear boundaries that will keep its academic identity intact. Any form of profit-seeking should not affect the fundamental principles of science, compromise on the integrity of clinical trials, or hamper the freedom of information within its educational resources.

Universities mitigate such threats by forming independent review boards to examine all large-scale business deals. The clear distinction between corporate entities and fundamental laboratories ensures the university's objectivity while generating economic gains.

Table 3. *Phase-Based Institutional Implementation Playbook*

Implementation Phase	Core Tactical Mandates	Primary Stakeholders Involved	Target Deliverables
Phase 1: Realignment (Months 1–12)	• Audit all existing patent portfolios. • Introduce startup options into tenure rules. • Implement standardized contract templates.	• Board of Trustees • Faculty Senate • General Counsel	Modernized Faculty Handbook & TTO operational charter.
Phase 2: Activation (Months 13–24)	• Launch an internal pre-seed fund. • Build on-campus venture studios. • Sign Master Research Agreements with top partners.	• Chief Innovation Officer • Local Venture Funds • Corporate R&D VPs	Operational seed fund & active startup matching tracks.
Phase 3: Integration (Months 25–36)	• Deploy the full I-ROI analytics index. • Expand the campus innovation district. • Launch joint corporateacademic labs.	• University President • Regional Governors • Urban Developers	Fully functional, multi-channel innovation cluster ecosystem.

Conclusion

An assessment of the return from university innovation investments using traditional financial methods and relying on one financial indicator is no longer a solution for the modern, knowledge-based economy. Universities being anchors of stability and progress in their regions need an innovative multi-criteria assessment system that fully reflects the magnitude of their impact on society. The model of I-ROIuniv proposed in this article offers such a solution.

The inclusion of all three indicators – revenue generated by technology transfers, venture capital investment, and corporate research spending – into an index demonstrates the enormous economic power of innovation within the institution. Academic and national governments must leave behind the old practices of defensive financial assessments and adopt new methods of evaluation. Otherwise, we will be unable to allocate resources correctly and harness scientific power.

References

Etzkowitz, H., & Leydesdorff, L. (2000). The dynamics of innovation: from National Systems and "Mode 2" to a Triple Helix of university–industry–government relations. Research Policy, – 29(2). – P. 109–123.

Bercovitz, J., & Feldman, M. (2006). Entrepreneurial Universities and Technology Transfer: A Conceptual Framework for Understanding Knowledge Flows. The Journal of Technology Transfer, – 31(1). – P. 175–188.

Rothaermel, F. T., Agung, S. D., & Jiang, L. (2007). University entrepreneurship: a taxonomy of the literature. Industrial and Corporate Change, – 16(4). – P. 691–791.

Shane, S. (2004). Academic Entrepreneurship: University Spinoffs and Wealth Creation. Cheltenham: Edward Elgar Publishing.
Audretsch, D. B. (2014). From the intentional to the entrepreneurial university. The Journal of Technology Transfer, – 39(3). – P. 313–321.
Mowery, D. C., Nelson, R. R., Sampat, B. N., & Ziedonis, A. A. (2004).Ivory Tower and Industrial Innovation: University Industry Technology Transfer Before and After the Bayh-Dole Act. Stanford University Press.
O'Shea, R. P., Allen, T. J., Chevalier, A., & Roche, F. (2005). Entrepreneurial orientation, technology transfer offices and university spin-off creation: An empirical test. Research Policy, – 34(7). – P. 994–1009.
Rasmussen, E., & Wright, M. (2015). How can universities facilitate academic spin-offs? An entrepreneurial capabilities perspective. The Journal of Technology Transfer, – 40(5). – P. 782–799.

submitted 24.07.2026;
accepted for publication 08.08.2026;
published 31.07.2026

Contact: ceyhunganjali@gmail.com

European Journal of Economics and Management Sciences 2026, No 3
ISSN 2310-5690

PREMIER Publishing
ppublishing.org

DOI:10.29013/EJEMS-26-3-27-31

IS MENTAL ILLNESS OVER-DIAGNOS ED NOW, OR JUST BETTER RECOGNISED?

Hiba Ahmad [1]

[1] Student Researcher Dubai College Dubai, United Arab Emirates

Cite: *Hiba A. (2026). Is mental illness over-diagnosed now, or just better recognised? European Journal of Economics and Management Sciences 2026, No 3.* https://doi.org/10.29013/EJEMS-26-3-27-31

Abstract

This essay will examine the cause of the considerable rise in mental illness, whether it be due to over-diagnosis or recognition of previously neglected conditions. By utilising diagnostic trends and research, it argues that both processes can be true. The identification of genuine disorders has increased due to the increase in public awareness and reduced stigma around mental illness. However, the rise of diagnoses can stem from pharmaceutical business' financial incentives, and can encourage the medicalisation of normal experiences of stress and emotional difficulty. The essay will evaluate the economic and ethical implications of the increased diagnoses and concludes that the main issue is not the number of diagnoses, but the conditions under which they are applied. Ultimately, this essay insinuates that mental illness is both over-diagnosed and better recognised and requires practical steps from organisations and policymakers to control incentives and strive for genuine patient benefit rather than ticking a financial box.

Keywords: *mental illness, over-diagnosis, mental health recognition, DSM, pharmaceutical industry, organisational behaviour, workplace wellbeing*

Introduction

In recent years, it has become near impossible to deny the prevalence and attention over mental health illnesses. Companies and businesses have skyrocketed awareness campaigns from Spotify's 'Take a Beat' to the introduction of the meditation app CALM (Roger Horberry. 2025). However, through this sudden growth of acknowledging these illnesses, there is a growingly blurred line between whether this is a real, growing epidemic of mental illness, or whether society has been better at naming a long-neglected set of problems.

To clarify the concept of the prompt, we must first define and distinguish the two juxtaposing sides. Better recognition (The University of Greater Manchester. 2022) alludes to recognising and addressing real mental conditions that were previously shunned or called 'personal weaknesses', whilst over-diagnosis refers to the point at which mild, context-driven stress is treated as a mental disorder. Or when corporations place over-importance on so-called ‘awareness’ and ‘diagnoses’ in order to check off a box, rather than actually catering to patient needs.

In this essay, I argue that mental illness in now both better recognised and, in some contexts, over-diagnosed. The balance between the two depends heavily on how institutions are structured and incentivised – as where diagnosis is evidence-backed and authentic, increased diagnosis shows moral and economic progress. Whereas, where diagnosis is driven purely by profit and convenience, it comes with the risk of becoming an exploited tool that does more harm than good.

What has actually changed?

In order to understand if mental illness really is over-diagnosed, we must address whether there is, in reality, more of it. From what we see now on the media and within our day-to-day lives, it is easy to conclude that we are facing a sort of mental illness epidemic. News anchors report skyrocketing numbers of people suffering from mental illnesses, like depression, anxiety and ADHD (World Health Organisation (WHO). (2025) while schools admit more and more students for special educational needs (BBC News. June 2026). Diagnostic terms seem to be everywhere within colloquial settings, through which we paint the picture that there is a huge increase in mental issues. However, through multiple systematic reviews of population surveys, it has been shown that there has been only a slight increase in the ubiquity of common mental disorders in recent decades, with much of the supposed growth coming from changes in awareness and willingness to disclose, rather than a sudden explosion.

Additionally, the boundaries and definitions of ‘mental illness’ have definitely been adjusted over time, evident through the constantly revised Diagnostic and Statistical Manual of Mental Disorders (DSM). Diagnoses have been broadened, narrowed and new ones have been introduced. But critics have argued that there is a high risk of certain DSM categories medicalising normal mood variations, like grief or irritability as a child. Yet the structure is still complex as, according to detailed meta-analyses, not every disorder has been magnified – some have actually become tightened. Therefore, this challenges any generalised notion that psychiatry has loosened all its standards.

An important factor to consider with this question is that now, with the changing of the times, we have more data and less stigma. Groups that preciously would have hidden their symptoms, like women, ethnic minorities, low-income groups, are now more likely to receive a diagnosis. Naturally, this would increase the number of recorded cases without necessarily ‘proving’ that actual mental illness is increasing. Meaning that when we now compare diagnoses from thirty years ago with today, we can see the real suffering that was previously ignored, highlighting the changing social attitudes, another topic within itself, seen as, over time, ‘Pro-social reactions like the desire to help increased for depression’ (National Library of Medicine. (2022).

Economic and organisational incentives for Over-diagnosis

Alternatively, from a business angle, mental illness has now become a market and a metric, which can be dangerous in terms of over-diagnosis as it caters to a whole sector through which businesses can utilise.

Firstly, the pharmaceutical industry has a very strong influence on how mental illness is defined and treated. These drug manufacturers benefit more the more people qualify for treatment with their products. This creates a conflict of interest, as the experts who are responsible for setting diagnostic criteria and guidelines also receive payments from certain companies that rely on broader definitions of mental illness to maximise their profit. As a result, diagnostic categories can be widened (National Library of Medicine. 2019) so that normal experiences, like mild concentration problems or short-term sadness are more likely to be labelled as medical disorders, increasing the number of people who are given medication.

Secondly, healthcare financing systems can often reward diagnosis. In many countries, hospitals and clinics are paid based on how many diagnoses they provide. For example, a patient with a recognised disorder can generate higher payments by insurers or justify access to special funding streams. This then leads to 'up-coding' (National Health Care Anti-Fraud Association (NHCAA). (2025), which is when labels that increase revenue or resources are chosen, which is easier now due to the increasingly fuzzy boundary between normal stress and mental disorder. Most clinicians do not favour over-diagnosis, but they work in systems under financial pressure, where managers use diagnosis numbers to measure performance. This can then lead to labelling more people and 'assigning' disorders.

Third, schools and workplaces may also use diagnoses to manage risk and accountability. A school that pushes students towards psychiatric testing may be trying to secure extra support but may also be seeking a label that shifts responsibility away from the institution's own environment. Similarly, a company may prefer to frame an employee's breakdown as individual vulnerability fitting into a neat diagnostic box, rather than a response of overworking or bulling. In this context, over-diagnosis becomes a way of avoiding accountability and responsibility as we treat the person instead of changing the system.

Although this correlation does not necessarily 'prove' that mental health is over-diagnosed, it does reveal how behaviour within business models can push the system in that direction. When diagnoses are linked to profit, funding and avoiding blame, it becomes more likely that labels will increase, whether or not they are medically necessary.

The case for better recognition

It would, however, be a mistake to come to the conclusion that more diagnosis is merely a system of commercial excess. There is also a strong ethical and economic case for recognising mental illness more thoroughly, especially from an institutional standpoint.

Mental disorders cause a large amount of economic loss around the world (National Library of Medicine. 2022), particularly recently. Conditions like depression, anxiety and substance-use disorders lead to many years of reduced quality of life, costing trillions of dollars through healthcare spending, welfare support and lost productivity. For businesses, this shows up as staff absences and low performance. Employees with untreated mental health issues are therefore more likely to miss work or leave the organisation altogether. From this point of view, it is rational for employers to take mental health seriously.

Consequently, many companies have began investing in mental health programmes including, Employee Assistance Programmes, counselling hotlines and mindfulness apps. It has been suggested that initiatives like this can improve productivity (World Health Organisation (WHO). (2024), with an estimate of several dollars returned for every dollar invested. From this view, higher diagnosis rates are not purely about over-medicalising normal behaviour, but about identifying people who need help so that support can be provided. Therefore, for example, a manager acknowledging that a significant portion of staff meet criteria for depression is critical information for workforce planning and risk management.

Moreover, better recognition can be seen from a judicial perspective. Historically, entire groups were under-diagnosed – women's suffering being dismissed as 'hysteria', racial minorities whose distress was stereotyped as aggression, people in poor areas having no access to mental healthcare. To treat under-diagnoses as morally neutral while condemning over-diagnosis is to ignore history. If we believe that everyone has the right to relief from avoidable suffering, then identifying genuine mental illness is moral progress.

Therefore, the challenge is to distinguish between the recognition that opens access to help from labelling that serves institutional interests. From a social policy perspective, this means questioning whether diagnosis actually improves outcomes – does it lead to evidence-based treatment and healthier organisational cultures, or does it simply produce more forms and prescriptions?

How should institutions diagnose mental illness?

Although the essay questions seems to demand a yes-or-no response, if taken from a business viewpoint, a more pragmatic conclusion can be deduced: institutions should expand diagnosis where it leads to genuine benefit and limit it when it does not. This may seem like an obvious solution, yet it has demanding implications for how organisations organise incentives and measure success.

Firstly, effective diagnosis must be judged by outcomes over volume. For employers and healthcare providers, the key question is not 'how many' individuals are diagnosed, but whether those individuals are better of as a result. For instance, when an employee is diagnosed with anxiety and therefore receives therapy and proper workplace accommodation, diagnosis has fulfilled its purpose. By contrast, however, if the label merely leads to marginally effective medication while the harmful organisational practices that generated the original stress continue, diagnosis risks serving as institutional convenience rather than genuine care and action.

Secondly, diagnosis should be paired with investment in prevention. While it is often simpler to categorise individuals than to reform whole systems, prevention is, in the long run, far more sustainable, ethical and economically superior. Employers can redesign roles to increase autonomy, ensure reasonable workloads, increase supportive leadership and address harassment. Educational institutions can moderate excessive performance pressures and foster a more supportive environment, which would then increase performance anyway. In contexts like these, genuine mental illness will still exist, but preventable distress would reduce, clarifying when diagnosis is real rather than a response to unreasonable conditions.

Finally, managers and people in power must remain alert to the power of this diagnostic language. When organisations enthusiastically adopt clinical labels, this may unintentionally cause individuals to associate all forms of struggle as mental disorders. While this can reduce stigma, it may also weaken individual agency. An ideal, responsible approach would acknowledge the reality of mental illness while leaving room for non-medical ways of understanding and dealing with difficulty, like relationships, community and social change. Good management should therefore encourage multiple ways of thinking about wellbeing, rather than treating diagnosis as the only explanation.

Conclusion

So, to conclude, is mental illness really over-diagnosed now, or just better recognised? There is no reductive, black-and-white answer to this because, as evidence and incentives suggest, it is both. Rightly, we are more willing to address real mental issues, which has opened doors to treatments and workplace reform that improve individual lives as well as the organisation's performance. Simultaneously, though, the commercial interests of certain pharmaceutical companies, and the managerial convenience of labelling, over-diagnosis has been increasing in certain contexts, where the benefits of a diagnosis are, at worst, harmful.

Again, taking this from an organisational lens, the key question is not the number of diagnoses made, it's about how well institutions structure the conditions in which these diagnoses are applied. Recognition signals progress only when incentives provide support for genuine patient and employee benefit. Diagnosis risks becoming a tool of control when, instead, they reward volume, profit or blame-shifting. The responsibility of organisational leaders and policy makers is to ensure that mental health diagnoses lead to real support, not just financial gain.

References

Roger Horberry. (2025). *6 mental health campaigns that are making a difference in 2025*. URL: https://www.gwi.com/blog/mental-healthhttps://www.gwi.com/blog/mental-health

The University of Greater Manchester. (2022). *Mental Illness Recognition: What you Need to Know*. URL: https://greatermanchester.ac.uk/blogs/mental-illness-recognition-what-you-need-to-know

World Health Organisation (WHO). (2025). *Over a billion people living with mental health conditions – services require urgent scale-up*. URL: https://www.who.int/news/item/02–09–2025-over-a-billion-people-living-with-mental-health-conditions-services-require-urgent-scale-up

BBC News. (June 2026). *Number of children getting special educational needs support hits another record high*. URL: https://www.bbc.com/news/articles/cj4g18gy14no

National Library of Medicine. (2022). *Changes in mental illness stigma over 30 years – Improvement, persistence, or deterioration?*. URL: https://pmc.ncbi.nlm.nih.gov/articles/PMC9724218

National Library of Medicine. (2019). *Expanding boundries in psychiatry: uncertainty in the context of diagnosis-seeking and negotiation*. URL: https://pmc.ncbi.nlm.nih.gov/articles/PMC7496635

National Health Care Anti-Fraud Association (NHCAA). (2025). *Upcoding, a common medical fraud exposed*. URL: https://www.nhcaa.org/events/upcoding-a-common-medical-fraud-exposed

National Library of Medicine. (2022) *Quantifying the global burden of emntal disorders and their economic value*. URL: https://pmc.ncbi.nlm.nih.gov/articles/PMC9526145

World Health Organisation (WHO). (2024). *Mental health at work*. URL: https://www.who.int/news-room/fact-sheets/detail/mental-health-at-work

submitted 18.06.2026;
accepted for publication 02.07.2026;
published 31.07.2026

Contact: hibahmad735@gmail.com

European Journal of Economics and Management Sciences 2026, No 3
ISSN 2310-5690

PREMIER Publishing
ppublishing.org

DOI:10.29013/EJEMS-26-3-32-34

A CONTEMPORARY VIEW ON THE TRADITIONS OF MULTICULTURALISM IN WESTERN EUROPE

Elvin Khudaverdiyev [1]

[1] Doctoral Student at the Institute of History and Ethnology named after A. Bakikhanov of ANAS

Cite: *Khudaverdiyev E. (2026). A Contemporary View on the Traditions of Multiculturalism in Western Europe. European Journal of Economics and Management Sciences 2026, No 3.* https://doi.org/10.29013/EJEMS-26-3-32-34

Abstract

This article examines contemporary perspectives on the traditions of multiculturalism in Western Europe in the context of globalization, migration, and geopolitical transformations. The study analyzes the evolution of multicultural policies in countries such as Germany, France, and the United Kingdom, emphasizing the interaction between integration, national identity, and social cohesion. Particular attention is devoted to recent migration crises, the rise of right-wing populism, and the challenges associated with refugee integration. The article argues that multiculturalism in Western Europe is undergoing a process of transformation rather than decline. Modern European societies increasingly seek adaptive models that combine cultural diversity with civic integration and democratic stability. The research is based on comparative and historical analysis and demonstrates that successful multicultural policies require institutional support, intercultural dialogue, and inclusive social strategies.

Keywords: *multiculturalism, Western Europe, migration, integration, cultural diversity, refugees, social cohesion, European identity*

Introduction

Multiculturalism has become one of the most debated socio-political concepts in contemporary Europe. Intensified migration processes, demographic changes, globalization, and regional conflicts have significantly transformed the cultural landscape of Western European societies. In the late twentieth and early twenty-first centuries, multiculturalism emerged not only as a theoretical concept but also as a practical state policy aimed at regulating ethnic, religious, and cultural diversity.

Western Europe represents a unique environment for the study of multiculturalism because different states have adopted different approaches toward integration and diversity management. While countries such as the United Kingdom historically promoted multicultural pluralism, France emphasized republican assimilation, and Germany gradually shifted from temporary labor migration policies toward a more inclusive integration framework. These differing experiences reveal that multiculturalism cannot be understood as a universal or uniform model.

In recent years, multiculturalism in Europe has faced serious criticism. The migration crisis triggered by conflicts in the Middle East, the war in Ukraine, growing refugee flows, and the rise of nationalist political movements have challenged the sustainability of multicultural policies. Nevertheless, multiculturalism remains an essential mechanism for preserving social harmony and democratic stability in culturally diverse societies.

This article aims to analyze contemporary interpretations of multicultural traditions in Western Europe, evaluate current challenges, and examine future perspectives for multicultural policies.

Theoretical Foundations of Multiculturalism

Multiculturalism refers to the coexistence of diverse ethnic, cultural, religious, and linguistic groups within a single political and social framework. However, the concept extends beyond the simple recognition of diversity; it also includes institutional mechanisms that ensure equality, participation, and social integration for minority groups.

Scholars such as Charles Taylor, Tariq Modood, and Bhikhu Parekh emphasize that multiculturalism should be understood as a democratic response to cultural pluralism. According to liberal multicultural theories, minority communities should preserve their cultural identities while simultaneously participating in broader civic life (Taylor, 1994). Critical multiculturalism, however, argues that multicultural policies must also address structural inequalities, discrimination, and power relations within society (Castles, & Miller, 2009).

Western European multicultural traditions developed primarily after World War II due to labor migration, decolonization, and increasing international mobility. As immigrant communities expanded, governments introduced policies designed to facilitate integration and maintain social stability. Over time, these policies evolved into distinct national models.

Western European Models of Multiculturalism

The United Kingdom historically adopted one of the most pluralistic multicultural approaches in Europe. British multiculturalism recognized ethnic and religious communities as legitimate social actors and encouraged cultural autonomy within a democratic framework (Modood, & Meer, 2012). Public institutions often supported minority languages, cultural organizations, and faith-based educational initiatives.

However, the British model also faced criticism for contributing to the formation of parallel communities and limited social interaction between ethnic groups. Following terrorist attacks and growing concerns over national cohesion, British policymakers increasingly promoted the concept of "community integration" alongside multicultural recognition (Modood, 2013).

France represents a contrasting approach based on republican universalism and assimilation. French political culture traditionally emphasizes citizenship and secularism rather than ethnic or religious identity. Consequently, public expressions of cultural or religious difference are often restricted in state institutions (Kymlicka, 1995).

The French government argues that social unity depends on shared republican values rather than group-based identities. Critics, however, claim that this model sometimes marginalizes minority communities by failing to recognize structural inequalities and cultural differences. Debates surrounding Islamic symbols in public schools illustrate the tensions between secular republicanism and multicultural realities (May & Sleeter, 2010).

Germany's multicultural transformation was initially shaped by the arrival of "guest workers" during the postwar economic boom. For decades, German authorities considered migration temporary and therefore avoided comprehensive integration policies. However, demographic realities eventually forced Germany to redefine itself as an immigration society.

Contemporary Challenges to Multiculturalism

One of the most significant contemporary challenges to multiculturalism in Western

Europe is the increasing scale of migration and refugee flows. Conflicts in Syria, Iraq, Afghanistan, and Ukraine have generated unprecedented humanitarian movements toward Europe. These developments intensified debates about national identity, border security, and social integration (Parekh, 2000).

Refugee integration requires more than humanitarian assistance. Effective multicultural policies must provide access to education, employment, healthcare, and cultural participation. Without long-term integration strategies, social exclusion and marginalization may increase.

Another major challenge is the rise of nationalist and right-wing populist movements across Europe. Many political parties portray multiculturalism as a threat to national culture and social cohesion. Anti-immigration rhetoric has become increasingly influential in public discourse, especially during periods of economic uncertainty and security concerns.

Conclusion

Contemporary perspectives on multicultural traditions in Western Europe demonstrate that multiculturalism remains a dynamic and evolving phenomenon. While migration crises, geopolitical conflicts, and nationalist movements have challenged traditional models, European societies continue to search for effective ways of managing diversity.

The experiences of the United Kingdom, France, and Germany illustrate that there is no single universal model of multiculturalism. Successful policies depend on historical context, institutional capacity, and the ability to balance diversity with social integration.

Ultimately, multiculturalism in Western Europe should not be viewed solely as a cultural policy but also as a broader democratic framework aimed at ensuring social stability, equality, and peaceful coexistence in increasingly diverse societies.

References

Taylor, C. (1994). *Multiculturalism: Examining the politics of recognition* (P. 25–73). Princeton University Press.

Modood, T. (2013). *Multiculturalism: A civic idea* (P. 45–98). Polity Press.

Kymlicka, W. (1995). *Multicultural citizenship: A liberal theory of minority rights* (P. 10–56). Oxford University Press.

May, S., & Sleeter, C. (2010). *Critical multiculturalism: Theory and praxis* (P. 67–112). Routledge.

Castles, S., & Miller, M. J. (2009). *The age of migration: International population movements in the modern world* (P. 121–178). Guilford Press.

Parekh, B. (2000). *Rethinking multiculturalism: Cultural diversity and political theory* (P. 83–140). Macmillan.

Modood, T., & Meer, N. (2012). Multiculturalism and interculturalism: Debating the dividing lines. *Ethnicities, – 12*(2). – P. 175–196.

submitted 08.05.2026;
accepted for publication 22.05.2026;
published 31.07.2026

Contact: elvin.khudaverdiyev@wcu.edu.az

European Journal of Economics and Management Sciences 2026, No 3
ISSN 2310-5690

PREMIER Publishing
ppublishing.org

DOI:10.29013/EJEMS-26-3-35-39

PROPAGANDA AS A TOOL FOR FORMING PUBLIC CONSCIOUSNESS: HISTORICAL ASPECTS AND MODERN CHALLENGES

Elvin Bahruz Talishinsky [1]

[1] Azerbaijan University, Head of Department of Political and Social Sciences, Ph D. Associate Professor

Cite: *Talishinsky E.B. (2026). Propaganda as a Tool For Forming Public Consciousness: Historical Aspects and Modern Challenges. European Journal of Economics and Management Sciences 2026, No 3.* https://doi.org/10.29013/EJEMS-26-3-35-39

Abstract

Propaganda is a powerful tool used to exert targeted influence on mass consciousness. The article analyzes the main theoretical approaches to understanding propaganda, its historical evolution, mechanisms of functioning in various political regimes, as well as modern forms, including digital and algorithmic propaganda. Particular attention is paid to the influence of propaganda on democratic processes, public opinion and behavioral attitudes of individuals.

Keywords: *propaganda, information policy, public consciousness, media, manipulation, digital technologies*

Introduction

Propaganda as a phenomenon has existed since ancient times. Its goal is to convince the masses of the correctness of a certain ideology or worldview. In the conditions of the modern information society, propaganda is becoming increasingly sophisticated, relying on the achievements of psychology, cybernetics, sociology and information technology. Modern propaganda can be implicit, disguised as news, entertainment or even educational content.

Propaganda is an integral part of human history, accompanying social, religious and political processes throughout the centuries. As a special form of targeted influence on mass consciousness, propaganda initially emerged in religious, military and political contexts, reflecting the desire of power structures to form, direct and control public opinion. Its evolution is closely linked to the development of communication technologies, changes in forms of government and the complication of socio-political systems.

The historical evolution of propaganda

Propaganda as a form of influencing mass consciousness has deep historical roots. Its elements can be traced back to antiquity – in speeches, monumental art and state rhetoric of Rome and Greece. However, the systematic use of propaganda began in the religious sphere, especially during the Counter-Reformation, when the Catholic Church established the Congregatio de Propaganda Fide (1622), a body responsible for spreading the Catholic faith and combating Protestantism. The Congregatio de Propaganda Fide is considered one of the first institutional examples of systematic propaganda, created on the initiative of Pope Gregory XV. Its goal was to spread the Catholic faith in response to the Protestant Reformation and to strengthen the position of the Roman Catholic Church throughout the world. The creation of the Congregation reflected the growing need for coordinated and centralized activity of the Catholic Church in the context of increased competition with Protestant teachings, especially in Europe. It was also part of a broader Counter-Reformation strategy aimed at restoring and expanding the influence of the papacy.

In the 20th century, propaganda reached unprecedented scale and technical perfection, especially in totalitarian regimes, where it became an integral part of government. During the First World War, the so-called War Propaganda Bureau was created in Great Britain (1914), which was later renamed the Office of War Information. In France, under the second department of the General Staff of the Ministry of Defense, a department of the Military Propaganda Service was created (1915). Thus, the main task of the military propaganda department was to influence the enemy with the help of leaflets. Each French army had an aircraft for distributing printed materials with information and psychological influence. Both institutions were engaged in disseminating propaganda among the military and civilians of other states. In 1917, a psychological section was created in the United States at the intelligence service of the headquarters of the expeditionary forces. The main means of conducting information warfare at that time were leaflets, postcards, newspapers. The Russian army used loudspeakers as technical means. Other countries, to one degree or another, tried to exert information and psychological influence on the enemy troops and population, but the influence of this influence was significantly inferior to that of England and France. In Germany, until August 1918, it was prohibited to publish and distribute leaflets, since, in the opinion of the country's leadership, this was contrary to the rules of war. Of the informational and psychological influence materials, only the newspaper "Gazette des Ardennes", published in French for the population of the occupied areas, was allowed, which was distributed behind the front line using balloons. When the ban was lifted and Germany began mass publishing leaflets on American, British and French troops, time was lost and it failed to achieve any tangible results before the end of the war. During the World War I, informational and psychological influence was exerted through printed propaganda. The main types of printed propaganda materials were: leaflets, brochures, letters from prisoners of war, postcards, posters, fake ration cards, etc. These materials were distributed using aviation and balloons. One balloon was used to deliver 2 kg of printed materials (500 to 1000 copies of leaflets). (Talishinsky, E. 2024, 239–240).

Propaganda in the Third Reich is one of the most studied and vivid examples of the instrumentalization of mass communication for political purposes. The Nazi regime created a unique and powerful system of ideological control, at the center of which was the Ministry of Public Enlightenment and Propaganda under the leadership of Joseph Goebbels. David Welch in his fundamental work "The Third Reich: Politics and Propaganda" offers a comprehensive analysis of the mechanisms by which the Nazis shaped public consciousness and ensured the political stability of the regime.

Welch emphasizes that the effectiveness of Nazi propaganda was determined not only by its content, but also by the centralized organizational structure that enabled the synchronization of messages across different media channels. "After the Nazi 'seizure of power' in 1933, Propaganda Minister Joseph Goebbels stressed the importance of coordinating propaganda with other activities. In a dictatorship, propaganda must address itself to large masses of people and attempt to move them to a uniformity of opinion and action. But the Nazis also understood that propaganda is of little value in isolation" (Welch, D. 1993, 1–15).

Nazi propaganda sought to eliminate alternative sources of information. Press freedom was destroyed, and journalists and writers were turned into agents of ideological transmission. Despite this, Welch emphasizes that propaganda did not always achieve the desired effect, and in the private sphere some citizens remained skeptical, especially in the later years of the war.

The Soviet Union, especially during the Stalin era, built a strictly centralized system of information control. Propaganda was used as a tool for the formation of a new type of citizen – the so-called "Soviet man." Every element of public life, including science, art, education, and culture, was subordinated to the ideological directives of the Communist Party. This was accompanied by mass campaigns, a cult of personality, and the suppression of dissent.

The outstanding American historian of Hungarian origin Peter Kenez, who made a significant contribution to the study of Soviet history and, in particular, the mechanisms of propaganda in the early USSR, in his book "The Birth of the Propaganda State: Soviet Methods of Mass Mobilization, 1917–1929" not only describes the tools of mass mobilization, but also reveals the ideological, cultural and organizational mechanisms by which the Bolsheviks sought to construct a new society and form a type of "Soviet man". His work became a key source for all subsequent studies in the field of Soviet information policy and mass communication. He argues that the Soviet Union was the first state in history that attempted to control every aspect of public information and mass culture from the moment of its inception. "The Soviet political order was born out of the anarchy of the Civil War. Russia, which had always been undergoverned, now fell apart: The weak ties between citizen and government snapped. The decisive task was to rebuild institutions, to restructure authority, and thereby to make the political and economic order function. The Bolsheviks, of course, had no plans for the circumstances in which they found themselves; no one could have foreseen the sequence of events that left Lenin at the head of Russia's government. Nevertheless, the Bolsheviks brought with them from their revolutionary past institutions that could be adapted for the new tasks" (Kenez, P. 1985. 4–6).

Thus, Peter Kenez's research shows that Soviet propaganda from the very beginning was not only an instrument for influencing public opinion, but also the foundation of a new type of state governance. The Bolsheviks realized that in order to retain power and transform society, not only weapons and repressions were necessary, but also an active influence on the consciousness of the masses. In this context, propaganda acted as a technology for shaping political reality.

During the Cold War, the information confrontation between the USSR and Western countries acquired an institutionalized form, expressed in the creation and active operation of transnational media structures. A special role in this process was played by international broadcasting services – "Voice of America" and "Radio Free Europe/Radio Liberty". These channels systematically broadcast information aimed at an audience within the countries of the socialist camp, with the aim of undermining the monopoly on the interpretation of reality established by communist regimes.

Arch Puddington's "Broadcasting Freedom: The Cold War Triumph of Radio Free Europe and Radio Liberty" (Puddington, A. 2000) provides a detailed look at the role of Radio Liberty and Radio Free Europe as instruments of US soft power during the Cold War. Puddington highlights how these stations were an important element of the US strategy to spread democratic values and counter communist propaganda. He describes how Radio Liberty provided alternative information, supported dissident movements, and shaped public opinion receptive to liberal ideas and democratic institutions.

Thus, the historical evolution of propaganda demonstrates its exceptional flexibility and ability to adapt to changing political, technological and cultural conditions. From church messages and government decrees to television advertising and social media algorithms, propaganda remains one of the most important tools for shaping public consciousness and managing the perception of reality.

Theoretical approaches to the study of propaganda

Theoretical approaches to the study of propaganda cover an interdisciplinary space and were formed at the intersection of philosophy, sociology, political science, psychology, media studies and communication sciences. The study of propaganda relies on several theoretical approaches, each of which offers its own perspective on the mechanisms of propaganda's impact on the audience.

Propaganda is a purposeful activity of spreading ideas, beliefs or information with the aim of influencing people's opinions, behavior or actions. In scientific literature, it is considered as a special form of symbolic influence in political, military, religious and cultural contexts. The term "propaganda" (from the Latin propagare – to spread) as mentioned above acquired mass significance in the 20th century, especially in the context of two world wars. Propaganda became an integral part of political mobilization, ideological pressure and public opinion management.

Among the scientists who studied propaganda, a special place is occupied by Harold Lasswell, whose works laid the foundations for the empirical and theoretical analysis of mass communication. His contribution to the study of propaganda had a huge impact on the development of the humanities and social sciences in the 20th century. In the context of world wars and the growing importance of the media, Lasswell proposed a scientific, systematic and pragmatic approach to the analysis of propaganda impact, focusing on the mechanisms of influence on mass consciousness, the structure of the communication process and the goals of propaganda.

In his classic work, Propaganda Technique in the World War, Lasswell describes propaganda as "the control of collective attitudes through the manipulation of significant symbols" (Lasswell, H.D. 1927. 232). Propaganda, in his view, is not simply the dissemination of information, but a strategic influence aimed at changing the behavior and thinking of the masses in accordance with political goals. Within the behaviorist approach, Lasswell linked propaganda with the stimulus-response theory, in which individuals are objects of external psychological influence.

Lasswell's most famous contribution to communication theory was the model he formulated in "Structure and Function of Communication in Society" (1948):

(Who says what, in which channel, to whom, with what effect?)

This formula represents a schematic structure of a communication act, allowing one to analyze both propaganda and any mass communication from the point of view of its components. The model has become basic in communication and media studies, especially in the analysis of political and advertising messages (McQuail, D. 2010. 64).

Thus, Lasswell's approach opened the way to a systemic and interdisciplinary analysis of information influence, transforming propaganda from a political accusation into a subject of scientific research. Today, in the context of information wars and digital media, Lasswell's legacy remains relevant and serves as a basis for the analysis of both classical and modern propaganda.

One of the most profound and original theorists of propaganda in the 20th century was Jacques Ellul, author of the influential book Propaganda: The Formation of Men's Attitudes (1962), translated into many languages. Ellul offers not only a typology and structure of propaganda, but also a philosophical understanding of its connection with technology, mass culture and the alienation of the individual. According to Ellul, propaganda is a stable, systematic and comprehensive form of influence aimed not only at changing behavior, but also at shaping the very way of thinking of the individual. In contrast to the understanding of propaganda as a lie or manipulation, Ellul emphasizes that it can be based on truth, but at the same time be no less dangerous.

"Propaganda is not the overt and free communication of ideas; it is, rather, a set of methods employed by an organized group that wants to bring about the active or passive participation in its actions of a mass of individuals, psychologically unified through psychological manipulations and incorporated in an organization" (Ellul, J. 1973. 4).

Ellul distinguishes two key types:

Political propaganda – targeted influence from states, parties or movements with specific political goals.

Sociological propaganda – deep influence of society on the individual through mass culture, everyday symbols, language, advertising, education. It is less noticeable, but more powerful, since it creates basic attitudes of perception.

Jacques Ellul proposed not just a theory of propaganda, but a holistic philosophy of modern society, in which propaganda acts as a structural element of social reality. His approach allowed us to rethink the very nature of information influence and expand the boundaries of mass consciousness analysis. In the era of digital media and information wars, Ellul's ideas gain new strength, reminding us that the most effective propaganda is the one that becomes invisible.

Conclusion

The history of propaganda is the history of the battle for minds. It shows how, with the development of communication technologies and the increasing complexity of political structures, propaganda has transformed from a primitive form of influence into a powerful tool of mass control. From cave paintings and church bulls to radio, television and digital platforms, every medium has been used to some extent to transmit ideological attitudes and shape public opinion.

References

Talishinsky, E. (2024). Information and psychological warfare in the context of the war between Azerbaijan and Armenia. Eminak: Scientific Quarterly Journal, – 4(44). – P. 231–247. URL: https://doi.org/10.33782/eminak2023.4(44).684

Lasswell, H.D. (1927). Propaganda Technique in the World War. – New York: Alfred A. Knopf. 232 p.

Mc Quail, D. (2010). McQuail's mass communication theory (6th ed.). London: Sage Publications. – 534 p.

Ellul, J. (1973). Propaganda: The Formation of Men's Attitudes. Trans. Konrad Kellen & Jean Lerner. – New York: Vintage Books. – 352 p.

Herman, E.S., & Chomsky, N. (1988). Manufacturing Consent: The Political Economy of the Mass Media. – New York: Pantheon Books. – 412 p.

Welch, D. (1993). Manufacturing a Consensus: Nazi Propaganda and the Building of a 'National Community' (Volksgemeinschaft). Contemporary European History, – 2(1). – P. 1–15. Doi:10.1017/S096077730000028X

Kenez, P. (1985). The Birth of the Propaganda State: Soviet Methods of Mass Mobilization, 1917–1929. Cambridge: Cambridge University Press. – 308 p.

Puddington, A. (2000). Broadcasting Freedom: The Cold War Triumph of Radio Free Europe and Radio Liberty. Lexington, KY: University Press of Kentucky. URL: https://uknowledge.uky.edu/upk_cultural_history/4/

Bahruz, E.T. (2023). Manipulation as a form of information-psychological war. Revista Universidad y Sociedad, – 15(5). – P. 143–150.

Zuboff, S. (2019). The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power. PublicAffairs. – 704 p.

Isaak, J. and Hanna, M.J. (2018) "User Data Privacy: Facebook, Cambridge Analytica, and Privacy Protection," in Computer, – Vol. 51. – No. 8. – P. 56–59. Doi: 10.1109/MC.2018.3191268.

Bradshaw, S., & Howard, P.N. (2019). The Global Disinformation Order: 2019 Global Inventory of Organised Social Media Manipulation. Oxford Internet Institute, University of Oxford. Available at: https://demtech.oii.ox.ac.uk/wp-content/uploads/sites/93/2019/09/Cyber Troop-Report19.pdf

submitted 08.05.2026;
accepted for publication 22.05.2026;
published 31.07.2026

Contact: elvin.talishinsky@au.edu.az

European Journal of Economics and
Management Sciences 2026, No 3
ISSN 2310-5690

PREMIER Publishing
ppublishing.org

Section 4. Regional economy

DOI:10.29013/EJEMS-26-3-40-42

PERSPECTIVE ON THE NUCLEAR ISSUE IN US-PRC RELATIONS

Khayyam Ismailzadeh [1]

[1] Baku State University, Department of International Relations, Doctor of Philosophy in Political Science, Acting Associate Professor

Cite: *Ismailzadeh Kh. (2026). Perspective on the nuclear issue in US-PRC relations. European Journal of Economics and Management Sciences 2026, No 3.* https://doi.org/10.29013/EJEMS-26-3-40-42

Abstract

Since the beginning of the 20th century, the development of science and technology in the world and the research conducted in the atomic industry have led to advances in nuclear weapons technology, which has caused the destruction of large areas and the death of millions of people. The damage and power of nuclear weapons to humanity was first seen by the whole world with the atomic bombs dropped by the United States on the Japanese cities of Hiroshima and Nagasaki in 1945. The development of nuclear weapons in order to prove their power during the Cold War led to an arms race between countries. Iran, in turn, has been one of the countries that entered this race since the late 1950s.

Keywords: *US, PRC, Islamic Republic of Iran, UN General Assembly, resolution, sanctions*

In 1946, the UN General Assembly adopted important resolutions to prevent the spread of nuclear weapons and established a Commission to work in this direction. As a result of the work done, many treaties were signed as a result of the UN's activities in the field of nuclear non-proliferation, the most important of which is the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), signed in 1968 and entered into force in 1970. The purpose of the treaty is to prevent the spread of nuclear weapons technology among the countries of the world, to develop cooperation for the peaceful use of nuclear energy, and to ensure nuclear disarmament in the future (Zhu Feng. 2012).

This UN treaty has been signed by a total of 191 countries, including the five nuclear-weapon states (the United States, China, France, the United Kingdom, and Russia). Iran signed the treaty in 1968 and ratified it in 1970. It is useful to briefly examine Iran's development of nuclear weapons technology long before that.

In 1953, US President Dwight D. Eisenhower, in his speech to the UN General Assembly, mentioned the Atoms for Peace (AFP) program for the peaceful use of nuclear technology. The Islamic Republic of Iran, which had close relations with the US during the Cold War, accepted this program in 1957 and pledged not to produce nuclear weapons but to conduct only "peaceful" nuclear research, and the US, in turn, provided Iran with fuel to be used in its nuclear reactor as part of the program (Paul K. Kerr. 2012).

As noted, after Iran signed the UN Treaty on the Non-Proliferation of Nuclear Weapons (NPT) in 1968, it approached the UN in 1974 with a proposal to establish a nuclear-weapon-free zone in the Middle East. Nevertheless, in the mid-1970s, US intelligence reports expressed concerns about Iran's pursuit of a nuclear weapons program.

The Iranian Islamic Revolution in 1979 marked a new turning point in nuclear weapons cooperation. US assistance to Iran in the field of nuclear energy continued from the 1950s until 1979, but this cooperation was suspended after the Islamic Revolution. Iran, which announced the suspension of its nuclear projects in 1979, announced the resumption of its nuclear program in 1982.

A 1985 US National Intelligence Council report noted Iran's interest in producing materials that could be used in nuclear weapons, and a report from the following decade stated that Iran would produce nuclear weapons within about ten years, provided it received foreign support.

In the mid-1980s, the United States began to impose economic sanctions on Iran, including it as a terrorist state. These sanctions began in 1987 with a ban on the purchase of oil from Iran and were later extended to other products (Aylin Unver Noi. 2005).

Iran, which restarted its nuclear program in 1982, turned to China, Russia, and North Korea for support after failing to secure support from Western powers. During the Iran-Iraq War of 1980–1988, Iran increased its cooperation with China in the field of nuclear energy, while also acquiring missile technology from North Korea to develop its military power.

After the collapse of the Soviet Union in the 1990s, the Russian Federation began cooperating with Iran in the nuclear field, assisting in the construction of a nuclear reactor and providing technical support (Elliot Friedland. 2006).

The reason for the rapprochement of the PRC and the IRI was the distrust of both countries towards the USA and the Soviet Union. Along with these factors, the solidarity against world hegemony, the formation of a multipolar world order and support for developing countries also brought the two countries closer. In addition, the PRC intended to develop comprehensive relations with Iran and strengthen its influence in the region more than the USA from a geostrategic point of view. At the same time, Iran played an important role in the direction of arms exports for the PRC.

The fact that the Islamic Republic of Iran has the second largest oil reserves in the world, and China's transformation into a developing country with increasing energy needs, inevitably made the PRC even more strategically important for Iran. After the establishment of diplomatic relations between the two countries in 1971, China was one of Iran's largest arms suppliers during the Iran-Iraq War (Brandon Fite. 2012).

In 2002, after the US declared Iran part of the "axis of evil", Chinese President Jiang Zemin responded by paying an official visit to Tehran two months after the US President's speech to show solidarity with Iran. In July of that year, after Iran's uranium enrichment program was revealed, the US and other Western countries suspended many projects with Iran, which created ample opportunities for Chinese companies to further strengthen their ties with Iran. In 2004, the PRC and Arab countries established the China-Arab Cooperation Forum. Since then, China-Iran relations have continued to develop steadily.

In 2004, the US imposed sanctions on some Chinese companies for providing nuclear technology to Iran. Not content with this, sanctions were also imposed on Chinese firms for supplying chemical weapons to Iran and making secret transfers. These sanctions, imposed in 2007 and 2008, were mainly aimed at preventing the proliferation of weapons of mass destruction.

Within the framework of the sanctions imposed on the Islamic Republic of Iran, China operated in two directions. On the one hand, it supported the sanctions imposed on Iran's clandestine nuclear activities, and on the other hand, it further developed economic relations with Iran and tried to create a balance between these two policies.

In June 2010, US President B. Obama and Chinese leader Hu Jintao met at the

Nuclear Security Summit in Washington. During the meeting, it was expressed that they shared a common position with the US on preventing the spread of nuclear weapons, but it was especially emphasized that they were against strict sanctions applied in the energy sector.

As can be seen, as a result of the strengthening and development of PRC–IRI relations, China has sold weapons to Iran, assisted in the development of nuclear energy, and continued to purchase oil from Iran. As a result, despite the sanctions imposed by the UN, the strengthening of relations between the PRC and the IRI and its growing influence in the Middle East cannot but concern the United States. That is why, although the PRC supports the UN resolutions and sanctions prohibiting Iran's nuclear weapons program, it has stated that it is in favor of resolving the problem only through negotiations, not through sanctions.

References

Zhu Feng. Shifting Tides and China's Nuclear Policy, 2012. – 41 p.
Paul K. Kerr. *Iran's Nuclear Program: Status,* CRS Report for Congress, 2012.
Aylin Unver Noi. "Iran's Nuclear Program: The EU Approach to Iran in Comparison to the US Approach", *Perceptions*, – Vol. 10. – No. 1. 2005. – 80 p.
Elliot Friedland. "Fact Sheet: The Iranian Nuclear Program," The Clarion Project, 2006.
Brandon Fite. "US and Iranian Strategic Competition: The Impact of China", CSIS, 2012. – 23 p.

submitted 26.05.2026;
accepted for publication 10.06.2026;
published 31.07.2026

Contact: Ekonika22@yahoo.com

European Journal of Economics and Management Sciences 2026, No 3
ISSN 2310-5690

PREMIER Publishing
ppublishing.org

Section 5. Statistics

DOI:10.29013/EJEMS-26-3-43-47

PATTERNS AND INSCRIPTIONS IN MEDIEVAL AZERBAIJANI MINIATURE ILLUSTRATED CERAMICS: HARMONY AND SYMBOLS

Sadagat Mammadli [1]

[1] Researcher of the Department of Numismatics and Epigraphy of the Institute of Archeology and Anthropology of ANAS

Cite: *Mammadli S. (2026). Patterns and inscriptions in Medieval Azerbaijani miniature illustrated ceramics: harmony and symbols. European Journal of Economics and Management Sciences 2026, No 3.* https://doi.org/10.29013/EJEMS-26-3-43-47

Abstract

This article examines the patterns and inscriptions found on medieval Azerbaijani miniature illustrated ceramics, emphasizing their symbolic meanings, stylistic harmony, and cultural significance. The study is mainly devoted to several artifacts preserved in the Azerbaijan National Museum of Art, representing the Tabriz ceramic school and the artistic synthesis of calligraphy, miniature painting, and ornamental design in the Safavid and pre-Safavid periods.

Keywords: *Medieval Azerbaijani ceramics, Azerbaijan National Museum of Art, Tabriz school of art, Islamic calligraphy, Safavid artistic heritage, Miniature illustration*

Introduction

Ceramic art in medieval Azerbaijan represents one of the most expressive forms of artistic creativity, where miniature illustration, ornamental design, and calligraphy blend into a harmonious unity. The interaction between visual symbols and inscriptions not only enhanced aesthetic appeal but also conveyed religious, political, and philosophical messages. These artistic features illustrate the sophistication of Azerbaijani artisans and the influence of Tabriz, a leading cultural and artistic center of the medieval Islamic world.

From the 11th to the 19th centuries, Azerbaijani ceramic production evolved alongside developments in miniature painting and architecture. Especially during the Safavid dynasty, ceramics were not mere utilitarian objects but carriers of ideological and aesthetic expression (Nasiri, N., 2012) The use of Arabic inscriptions and Persian poetic fragments reflected both religious sensitivity and intellectual refinement (Aslanapa, Oktay, 1997).

A minai-type plate discovered in Tabriz features a seated ruler identified as Shah Ismail. He is depicted enthroned, flanked by tamed wild beasts symbolizing royal power and divine protection (Efendi, Rasim, 1976, 2007). Court attendants stand respectfully on either side. An inscription in Arabic script reads: "Shah Ismail Abu al-Muzaffar 789". Considering the historical timeline, the numbers likely represent 987 AH (1579–1580 CE). However, stylistic inconsistencies suggest a later attribution, possibly to Shah Ismail II. The artistic execution demonstrates refined craftsmanship, characterized by delicate lines, a balanced composition, and symbolic representation of sovereignty (Fig. 1).

Figure 1.

Figure 2.

Figure 3.

Figure 3 a.

Another masterpiece preserved in the Azerbaijan National Museum of Arts (inventory no. Ç-146) depicts Shah Abbas I in relief on a tile measuring 43.5 × 33.5 × 3 cm. The right side bears the inscription “Shah Abbas al-Awwal” and the left, “Aghayi Mir Jalil al-Din, al-faqir fi, 6 Muharram al-Haram 1222”. This indicates that the piece was created by artist Aghayi Mir Khalil al-Din on March 17, 1807. The tile displays deep cobalt blue and turquoise hues, floral arabesques, and geometric frames (Blair, Sheila S., and Jonathan M. Bloom, 1994). The combination of inscription and ornament exemplifies aesthetic harmony – the written word complements visual symbolism, creating a dialogue between power, faith, and art (Fig. 2).

The jar (Ç-121–1, Ç121–2), also from Tabriz, stands 63 cm tall and dates to the late 18th–early 19th centuries. Its surface illustrates scenes inspired by Ferdowsi's Shahnameh, with inscriptions naming "Firudun" and "Keykavus". Through narrative depiction, the vessel becomes a storytelling medium, merging literature and fine art. The use of vivid colors, flowing lines, and calligraphic elegance demonstrates how miniature aesthetics influenced three-dimensional ceramic art (Fig. 3a, 3b).

Figure 4.

Figure 4 b.

Figure 5.

Figure 6 a

Another Tabriz jar (Ç-122, Ç-122–1–2) bears the inscriptions 'Shah Ismail' and 'Shah Abbas.' Inspired by Safavid iconography, it symbolizes dynastic continuity and divine legitimacy. The repetition of royal names in calligraphic form transforms writing into ornament – a sacred and aesthetic symbol of authority and unity (Grube, Ernst J, 1976), (Fig. 4a, 4b).

A remarkable example from southern Azerbaijan (inventory no. Ç-123) is an 11–13th-century earthenware plate decorated with Arabic inscriptions: "La ilaha illallah" (There is no god but Allah), "Almulk lillah" (Sovereignty belongs to Allah), and "Al - "izzatu lillah" (Glory and power belong to Allah). These phrases are not merely decorative; they express spiritual protection and divine harmony (Watson, Oliver, 2004). The Tabriz school's influence is visible in the intricate vegetal motifs and symmetrical layout, reflecting the artist's intention to achieve visual balance and spiritual depth (Fig. 5).

Several ceramics preserved in the National Museum of Azerbaijan Art (Ç-156, Ç-156(2) and Ç-213) bear the same inscription in Arabic: "Tawakkaltu… tawakkul takfa sall tu ta min amal tawakkul takfa. This formula refers to trust in God and the sufficiency of faith (tawakkul). The repetition of such expressions on everyday objects demonstrates the integration of spirituality into material culture and everyday life (Fig. 6 a, 6 b, 7).

Figure 6 b.

Figure 7.

Conclusion

Thus, the research shows that medieval Azerbaijani miniature ceramics are not only household items, but also works of art with deep artistic, ideological and spiritual content. In these examples, the unity of ornament, miniature image and calligraphy serves to form a high aesthetic harmony and reflects the political, religious and cultural mindset of the period (Habibov, Nazim, 1981). The analyzed exhibits prove that the Tabriz ceramic school played an important role in the development of Azerbaijani applied art, especially during the Safavid period, this field of art was enriched with images with ideological and symbolic meaning. Images of historical figures such as Shah Ismail and Shah Abbas, motifs of the "Shahnameh", as well as Arabic inscriptions, expressed ideas such as power, divine protection, faith and spiritual values in artistic form (Firdowsi. *Shahnameh*). At the same time, calligraphic inscriptions on ceramics act not only as decorative elements, but also as symbolic expressions with religious and philosophical content. This feature shows the mutual relationship of writing and image in Azerbaijani ceramic art and proves that they together create a single artistic composition (Karimov, Karim, 1987). Consequently, these ceramic examples preserved in the Azerbaijan National Museum of Art clearly demonstrate the high artistic level of medieval Azerbaijani art, the influence of the Tabriz school, and how the aesthetic principles of Islamic culture were embodied in applied art. The study of this heritage is of great importance for a deeper understanding and preservation of the history of Azerbaijani art.

References

Aslanapa, Oktay. *Turkish Art*. Istanbul: Remzi Kitabevi, 1997.
Azerbaijan National Museum of Art. *Inventory Records: Ç-121, Ç-122, Ç-123, Ç-146, Ç-156, Ç-213*. Baku.
Blair, Sheila S., and Jonathan M. Bloom. *The Art and Architecture of Islam 1250–1800*. New Haven: Yale University Press, 1994.
Efendi, Rasim. *Azerbaijani Decorative and Applied Arts*. Baku: Ishiq Publishing House, 1976.
Efendi, Rasim. *Azerbaijani Art*. Baku: Sharq-Garb Publishing House, 2007.
Firdowsi. *Shahnameh (The Book of Kings)*. Classical Persian epic poem, 10th century.
Grube, Ernst J. *Islamic Pottery of the Eighth to the Fifteenth Century in the Keir Collection*. London: Faber and Faber, 1976.
Habibov, Nazim. *Medieval Azerbaijani Ceramic Art*. Baku: Elm Publishing House, 1981.
Karimov, Karim. *Azerbaijani Miniature Art*. Baku: Elm Publishing House, 1987.
Nasiri, N. "Islamic Calligraphy and Symbolism in Safavid Ceramics." *Tehran Art Journal*, 2012.
Watson, Oliver. *Ceramics from Islamic Lands*. London: Thames & Hudson, 2004.

submitted 26.05.2026;
accepted for publication 10.06.2026;
published 31.07.2026

Contact: sedaqetmemmedli@yandex.com

European Journal of Economics and Management Sciences 2026, No 3
ISSN 2310-5690

PREMIER Publishing
ppublishing.org

Section 6. World economy

DOI:10.29013/EJEMS-26-3-48-50

REGIONAL INFRASTRUCTURE AND COMMUNITY WELL-BEING: THE SOCIO-CULTURAL DIMENSION OF AZERBAIJANI TOURISM

Anar Humbat oghlu Farmayilov [1]

[1] PhD in Sociology, Dean of the Faculty of Arts and Physical Education, Azerbaijan State Pedagogical University, Azerbaijan

Cite: *Farmayilov A.H. (2026). Regional Infrastructure and Community Well-Being: The Socio-Cultural Dimension of Azerbaijani Tourism. European Journal of Economics and Management Sciences 2026, No 3.* https://doi.org/10.29013/EJEMS-26-3-48-50

Abstract

Beyond direct macroeconomic indicators and employment statistics, the tourism industry plays a profoundly transformative role in shaping the physical infrastructure and socio-cultural fabric of developing regions. This paper explores how the expansion of the tourism sector in the Republic of Azerbaijan contributes to the social welfare of its citizens through infrastructural modernization and cultural preservation. By evaluating state-led tourism and regional development programs, the research demonstrates that investments primarily designed to attract and accommodate international visitors – such as the construction of advanced transportation networks, modern healthcare facilities, and public recreational spaces – yield permanent, secondary benefits that fundamentally elevate the daily living standards of local residents. Furthermore, tourism acts as a vital mechanism for cultural revitalization, incentivizing the preservation of tangible and intangible heritage, including national arts and traditional physical culture. The study utilizes qualitative analysis to assess the sociological impact of tourism on community well-being, particularly in historically significant regions such as Shaki, Gabala, and the recently liberated Karabakh region. The findings suggest that when managed sustainably, cultural and recreational tourism not only enhances national pride and social cohesion but also integrates marginalized communities into the broader socio-economic development paradigm. The paper concludes with strategic recommendations for fostering community-based tourism models that prioritize local infrastructural needs and safeguard cultural authenticity against the risks of hyper-commodification.

Keywords: *social infrastructure, cultural tourism, community well-being, regional development, social welfare, heritage preservation, Azerbaijan*

1. Introduction

The conceptualization of social welfare in contemporary sociological and economic discourse extends far beyond mere financial security and individual household income. A comprehensive understanding of social well-being encompasses access to high-quality public services, a resilient and modern physical environment, and a vibrant, sustained cultural life. In the Republic of Azerbaijan, the strategic and accelerated development of the tourism sector has proven to be an exceptionally effective instrument for holistic social improvement. As the state undertakes comprehensive macro-level initiatives to transition from an oil-dependent economy to a diversified model, tourism has been positioned not only as an economic generator but as a catalyst for holistic regional development. The resulting infrastructural and sociocultural transformations inherently benefit the local population, establishing a symbiotic relationship between tourist satisfaction and resident welfare. This article aims to deeply explore the non-monetary, yet structurally impactful ways in which tourism elevates the living standards and social well-being of Azerbaijani society. By examining the sociological dimensions of tourism, this research highlights how the physical modernization of regions and the international valorization of local arts, physical traditions, and cultural heritage synergistically contribute to the enhancement of the overall quality of life for the average citizen.

2. Literature review and theoretical framework

The theoretical foundation of this study is grounded in the Social Exchange Theory and the concept of Tourism-Induced Infrastructural Development. According to sociological literature concerning tourism impacts, local communities evaluate the expansion of the tourism industry based on the perceived balance of costs and benefits (Jalilova, 2026). When the development of tourist destinations brings about visible improvements in public goods – such as better roads, reliable energy grids, and enhanced public safety – the social acceptance and overall psychological well-being of the community significantly increase. Scholars emphasize that tourism possesses a unique "infrastructure mandate," meaning that successful tourism requires a level of physical and civic infrastructure that often exceeds the baseline provisions of rural municipalities (Shabanov, 2026). In the context of transition economies, this mandate accelerates state and private investments into public utilities that locals otherwise might have waited decades to receive.

3. Research methodology

This study adopts a qualitative, descriptive-analytical research methodology, relying on a comprehensive review of regional development programs, government policy documents, sociological surveys, and observational case studies. The primary focus is directed toward the assessment of infrastructure projects executed under the various iterations of the "State Program on Socio-Economic Development of Regions of the Republic of Azerbaijan." The research systematically observes the physical transformation of specific tourist-centric regions, analyzing the state of transportation networks, public utilities, and recreational facilities before and after major tourism interventions (Shahmammadov, 2024). To assess the socio-cultural impacts, the paper examines case studies involving the preservation of UNESCO World Heritage sites in Azerbaijan, such as the Historic Centre of Sheki with the Khan's Palace, and the ongoing cultural revival in the city of Shusha. The methodology also incorporates a sociological lens to evaluate how the promotion of national arts and traditional sports within the tourism framework influences youth engagement and community identity (Mahishov, 2025). By synthesizing policy analysis with sociological paradigms, the study provides a robust evaluation of tourism's role in advancing social infrastructure and cultural vitality.

4. Results and analysis

The analytical findings reveal a distinct dual benefit of tourism development in Azerbaijan, acting simultaneously as an accelerator for physical infrastructure and an anchor for socio-cultural identity. Infrastructurally, the absolute necessity to meet stringent international tourism standards has fundamentally accelerated the modernization of regional amenities across the country. The construction of new international airports in regions such as Fuzuli, Zangilan, and Gabala, the comprehensive rehabilitation of intercity and rural highways, and the critical upgrading of local water, sanitation, and electricity grids were primarily designed to attract and comfortably accommodate foreign visitors. However, these massive infrastructural overhauls permanently elevate the daily living conditions of the local resident population. As a direct consequence of tourism-driven investments, regional residents gain exponentially faster and safer access to central healthcare facilities, educational institutions, and broader domestic markets. Furthermore, the development of health and recreational tourism – such as the modernization of sanatoriums in Naftalan and the establishment of winter sports complexes in Shahdag and Tufandag – has introduced world-class physical therapy, physical education, and wellness infrastructure to regions that previously lacked such specialized facilities, thereby directly contributing to the physical well-being and health indices of the local population. Moreover, the integration of traditional physical culture and national sports, such as the Karabakh equestrian game of Chovgan, into cultural tourism itineraries elevates these practices from localized pastimes to internationally recognized symbols of Azerbaijani heritage. This dynamic not only provides profound psychological and social empowerment to rural communities but also integrates Azerbaijan deeply into global cultural dialogues (Mammadov, 2025). The systematic restoration of historical reserves, museums, and monuments cultivates a profound sense of national pride and social cohesion among the population, proving that the socio-cultural dividends of tourism are just as critical to human welfare as its economic yields.

Conclusion

In conclusion, the tourism industry in the Republic of Azerbaijan represents much more than a supplementary economic sector; it is a profoundly transformative force for social infrastructure and cultural vitality. The role of tourism in raising the social welfare of the population is unequivocally evident in the modernized public amenities, the improved regional connectivity, and the vibrantly revitalized cultural landscapes found across the nation. By forcing the rapid modernization of physical infrastructure and providing a sustainable rationale for the preservation of national arts, crafts, and physical traditions, tourism elevates the standard of living and the civic pride of Azerbaijani citizens.

References

Jalilova, S. S. (2026). Regional development potential of creative tourism in Azerbaijan and methodological foundations of its organization. Journal of Earth Sciences & Environment, – 3(2). – P. 40–55. URL: https://bsuj.bsu.edu.az/uploads/pdf/e426ce26da0b67ffde60a4f88053b63c.pdf

Mahishov, S. (2025). Ethical and cultural aspects of dark tourism in Azerbaijan. Akademik Tarih ve Düşünce Dergisi, – 12(2). – P. 998–1025. URL: https://doi.org/10.46868/atdd.2025.904

Mammadov, U. (2025). The impact of digital infrastructure development on the competitiveness of the tourism sector in Azerbaijan. The Scientific-Analytical Journal "Economic Reforms", – 2(2). – P. 100–115. URL: https://doi.org/10.30546/2790–2196.02.13.2025.3029

Shabanov, M. (2026). Tourism infrastructure investment: A catalyst for sustainable economic development. Porta Universorum, – 2(4). – P. 123–129. URL: https://doi.org/10.69760/portuni.26040016

Shahmammadov, R. (2024). Prospects for tourism development in Azerbaijan. Horizon Multidisciplinary Scientific Journal, – 1(2). – P. 72–85. URL: https://doi.org/10.5281/zenodo.20556080

submitted 30.06.2026;
accepted for publication 14.07.2026;
published 31.07.2026

Contact: anar.fermayilov@adpu.edu.az

Contents