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Student Tourism Development In Central Asia: Comparative Assessment Of Organizational Frameworks

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Abstract: This study examines student tourism development frameworks across five Central Asian countries (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan) through a comprehensive multi-dimensional assessment. Using data from 2018 to 2023, we evaluate framework effectiveness across five key dimensions: institutional development, governance effectiveness, stakeholder engagement, regional integration, and performance indicators. The analysis reveals significant differences in framework effectiveness, with scores ranging from 14.7 (Turkmenistan) to 62.1 (Kazakhstan) out of 100 in 2023. The study identifies stakeholder engagement and governance effectiveness as the most critical factors determining student tourism success. Countries with strong private sector participation and effective public-private partnerships show significantly better outcomes. The research provides practical insights for policymakers seeking to develop student tourism as an economic diversification strategy. We conclude that successful student tourism development requires balanced improvements across all dimensions, with particular attention to creating favorable conditions for private sector engagement and improving governance quality. These findings contribute to understanding tourism development in transition economies and offer a comprehensive framework for assessing student tourism potential in other regions.

Keywords: : student tourism, Central Asia, organizational frameworks, tourism development, governance effectiveness, stakeholder engagement, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan, comparative analysis, transition economies, educational mobility.

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1. Introduction

Student tourism represents an increasingly important segment of the global tourism market, combining educational objectives with cultural exchange and economic benefits. In Central Asia, a region undergoing significant economic transformation since independence, student tourism offers unique opportunities for international integration and economic diversification. Despite sharing similar historical backgrounds and geographic proximity, Central Asian countries have adopted markedly different approaches to developing their student tourism sectors, resulting in varied outcomes that merit systematic investigation [1], [2].

The Central Asian region comprises five former Soviet republics—Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan—each pursuing distinct development strategies while facing common challenges of institutional transformation, governance reform, and market liberalization. The dissolution of the Soviet Union's unified educational system created both opportunities and challenges for student

mobility. While Soviet-era connections provided initial frameworks for educational exchange, the development of modern student tourism infrastructure required fundamental reforms in visa policies, private sector engagement, and international marketing strategies [3], [4].

Recent years have witnessed significant policy changes across the region. Kazakhstan's strategic positioning as a regional education hub, Uzbekistan's dramatic liberalization since 2017, and Kyrgyzstan's traditional openness to international students contrast sharply with Turkmenistan's continued isolation. These different approaches provide a natural experiment for examining how different organizational frameworks influence student tourism development outcomes [5], [6], [7]. Understanding these variations is crucial for policymakers seeking evidence-based strategies for sector development.

The importance of student tourism extends beyond direct economic impacts. International students contribute to cultural diplomacy, knowledge transfer, and long-term business relationships. In Central Asia, where overcoming geographic isolation and Soviet-era stereotypes remains a priority, student tourism serves multiple developmental objectives. However, the effectiveness of different organizational approaches in achieving these objectives remains understudied, particularly through comparative analysis across all five countries [8], [9].

The main purpose, objectives and hypothesis of the research

The **main purpose** of this research is to conduct a comprehensive comparative assessment of student tourism development frameworks across all five Central Asian countries, evaluating their relative effectiveness and identifying key factors that determine successful outcomes.

The **specific objectives** are:

1. To develop and apply a multi-dimensional framework for assessing student tourism organizational effectiveness incorporating institutional, governance, stakeholder engagement, regional integration, and performance dimensions
2. To measure and compare the current state of student tourism development frameworks across Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan using standardized metrics
3. To analyze temporal evolution patterns (2018-2023) to identify different development trajectories and their underlying drivers
4. To determine which dimensions most strongly influence overall framework effectiveness and student tourism outcomes
5. To provide evidence-based recommendations for policymakers seeking to enhance student tourism development in transition economies

The research tests the following **hypotheses**:

H1: Central Asian countries have very different levels of student tourism development, even though they share similar histories.

H2: Countries with strong private sector involvement in tourism have more successful student tourism programs.

H3: Countries that improve all aspects of their tourism framework perform better than those that focus on just one area.

H4: Poor governance limits student tourism development, regardless of other strengths [10], [11], [12].

This research contributes to the literature by providing the first comprehensive multi-country assessment of student tourism frameworks in Central Asia, developing a replicable methodology for comparative analysis, and generating empirical evidence on the relationship between organizational frameworks and tourism development outcomes in transition economies. The findings have immediate relevance for regional policymakers while offering broader insights for student tourism development in similar contexts globally.

Literature Review

1. Student Tourism as a distinct market segment. Student tourism, defined as travel primarily motivated by educational or cultural exchange, has roots in the Grand Tour of the 17th–19th centuries, where European elites engaged in travel for intellectual enrichment. By the mid-20th century, this concept evolved into structured programs, such as UNESCO's student exchange initiatives, which emphasized intercultural learning and global citizenship [13], [14]. Early academic research focused on its pedagogical benefits, with Pearce framing student tourism as a tool for skill development and cross-cultural understanding. Theoretical frameworks later expanded to include economic impacts, particularly in developing economies where youth mobility programs were linked to revenue generation [15], [16]. However, foundational studies often overlooked organizational dynamics, such as policy design and institutional coordination, which are critical for sustainable implementation.

2. Institutional Theory and Tourism Development. *Scott's three-pillar framework—regulative, normative, and cultural-cognitive—provides the foundational lens for understanding tourism sector development in transition economies. North distinguishes between formal and informal institutions, arguing that successful economic transformation requires alignment between both dimensions [17], [18]. In the tourism context, Estrin et al. demonstrate that institutional quality significantly influences foreign investment flows and private sector development, particularly in post-socialist economies [19], [20].*

The application of institutional theory to Central Asian tourism development remains limited, though Kantarci provides early insights into institutional barriers constraining regional tourism growth. More recently, Sharipov examines institutional transformation in Uzbekistan's tourism sector, documenting how rapid regulatory changes can catalyze private sector engagement—a finding particularly relevant to student tourism development [21].

3. Governance and Tourism Performance. *The relationship between governance quality and tourism development has been extensively documented. Kaufmann et al. establish the methodological foundation for governance assessment through the Worldwide Governance Indicators, which numerous tourism studies subsequently employ. Das and Dirienzo find strong positive correlations between governance effectiveness and tourism competitiveness across 139 countries, with regulatory quality and control of corruption emerging as particularly significant factors [22].*

In the Central Asian context, governance challenges represent persistent constraints. Pomfret documents how weak governance institutions in the region create uncertainty for tourism investors and operators [23]. However, Saimova and Tiberghien argue that governance improvements in Kazakhstan have facilitated tourism sector modernization, suggesting potential pathways for regional development.

4. Stakeholder Theory in Tourism Development. *Freeman's stakeholder theory has been widely applied to tourism contexts, with particular relevance to public-private partnerships. Waligo et al. develop a multi-stakeholder involvement framework specific to sustainable tourism, emphasizing the critical role of private sector engagement. Bramwell and Lane extend this analysis to emerging destinations, arguing that effective stakeholder coordination represents a key differentiator between successful and unsuccessful tourism development initiatives [24], [25], [26], [27].*

The student tourism segment presents unique stakeholder dynamics. Lam et al. identify educational institutions, tourism operators, accommodation providers, and government agencies as primary stakeholders, whose coordination significantly influences destination attractiveness for international students. In transition economies, Horák and Sirakaya-Turk find that weak stakeholder coordination mechanisms constrain student tourism growth, despite favorable market conditions [28].

5. Regional Integration and Tourism Development. Regional integration theory, rooted in economic geography and international relations, provides insights into tourism

development dynamics. Balassa's stages of economic integration framework has been adapted to tourism contexts by several scholars. Sinclair-Maragh and Gursay argue that tourism integration follows distinct patterns from general economic integration, with mobility frameworks and visa policies playing disproportionate roles.

The Asia Regional Integration Center Index (ARCII) methodology, developed by the Asian Development Bank, incorporates tourism-specific indicators within broader integration assessments. This multi-dimensional approach aligns with contemporary understanding of tourism as a complex, cross-sectoral phenomenon requiring comprehensive analytical frameworks [29], [30], [31].

6. Central Asian Regional Dynamics. *Central Asian tourism integration presents unique characteristics shaped by Soviet legacies and contemporary geopolitical dynamics [32]. Kantarci and Uysal document persistent barriers to regional tourism cooperation, including restrictive visa regimes, limited transport connectivity, and weak institutional coordination mechanisms. However, Werner notes that educational mobility—particularly student exchanges—maintained relatively higher integration levels due to linguistic and cultural commonalities [33].*

Research Gaps and Future Directions. Despite growing literature on tourism development in transition economies, significant gaps remain regarding student tourism in Central Asia specifically. First, limited empirical data constrains *quantitative analysis of student tourism impacts and development patterns*. Second, *the role of digital transformation in facilitating student mobility remains underexplored*, particularly relevant given infrastructure limitations in the region [34], [35], [36]. Third, the intersection of *geopolitical dynamics and student tourism development* requires further investigation, as security concerns and international relations significantly influence mobility patterns.

Methodologically, existing studies predominantly employ single-country case studies or broad cross-national comparisons, with limited attention to regional comparative analysis. The development of comprehensive assessment frameworks, such as the one employed in this study, represents an important advancement in addressing these limitations [37], [38].

The literature reveals student tourism development as a complex phenomenon requiring multi-dimensional analytical approaches. While theoretical foundations from institutional theory, governance studies, and stakeholder analysis provide robust frameworks, their application to Central Asian contexts remains limited. The region's unique characteristics—including Soviet legacies, ongoing transition processes, and evolving geopolitical dynamics—necessitate adapted theoretical and empirical approaches. This study contributes to addressing these gaps through systematic comparative analysis of student tourism development frameworks across all five Central Asian countries [39].

2. Materials and Methods

*Quantitative Scoring Framework. This analysis employs a **Multi-Criteria Decision Analysis (MCDA)** approach with the following methodological components:*

1. **Normalization Technique:** Min-max scaling (0-100) for cross-dimensional comparability
2. **Weighting System:** Equal weighting (10% per dimension) with sensitivity analysis
3. **Data Sources:** World Bank WGI, UNWTO TTDI, national policy documents, regional organization reports
4. **Temporal Analysis:** Five-year observation period with linear trend analysis
5. **Validation Methods:** Multiple source triangulation, expert consultation, peer review

Theoretical Integration Framework. The analysis integrates multiple theoretical perspectives:

1. **Institutional Theory:** Three-pillar analysis of formal/informal institutions
2. **Stakeholder Theory:** Multi-stakeholder engagement assessment

3. *Governance Theory*: Effectiveness measurement through WGI

4. *Regional Integration Theory*: Economic and functional integration stages

The scoring system employs a systematic approach to convert qualitative policy assessments and quantitative data into comparable numerical scores:

1. **DIMENSION 1: INSTITUTIONAL FRAMEWORK.** It applied Scott's institutional framework, evaluating the regulative, normative, and cultural-cognitive pillars of student tourism development. Each pillar was analyzed through a structured indicator-based matrix with a maximum score of 10, based on policy documents, stakeholder interviews, and media/curriculum analysis. After that we **combined all pillar scores (max 30 points)** and normalize them to a 100-point scale for comparison. This approach enabled comparative assessment across Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan, and Turkmenistan.

a) **regulative pillar – (formal laws, policies, authority structures). The objective is to measure the strength and clarity of legal, policy, and structural support for student tourism, maximum score is 10. (Table 1)**

Table 1. Adapted scoring criteria of Scott's institutional framework for student tourism development.

	Indicator	Scoring Criteria	Max Score
Regulative Pillar	1.1 Existence of national laws/regulations on student/youth tourism	No = 0; In development = 1; Exists = 2	2
	1.2 Government policy/programs on student tourism (strategies, action plans)	None = 0; Partial mention = 1; Dedicated plan = 2	2
	1.3 Responsible institution/department assigned	None = 0; Indirect = 1; Direct authority = 2	2
	1.4 Visa policy for outgoing/incoming students	Restrictive = 0; Moderate = 1; Student-friendly = 2	2
	1.5 Financial/public funding availability for student travel	None = 0; Limited/local = 1; National-level funding = 2	2
Normative pillar	2.1 Existence of university-led student tourism units/clubs	None = 0; In few = 1; Widespread = 2	2
	2.2 Collaboration between ministries (education, youth, tourism)	Absent = 0; Weak = 1; Strong inter-ministerial links = 2	2
	2.3 National associations or networks for student travel	None = 0; Small scale = 1; National body = 2	2
	2.4 Professional incentives to support student mobility (teachers, institutions)	None = 0; Limited = 1; Actively promoted = 2	2
	2.5 Stakeholder attitude toward student tourism (survey/interview-based)	Weak interest = 0; Moderate = 1; Strong support = 2	2
Cultural-	3.1 Public perception of student mobility (survey, media, education)	Low = 0; Mixed = 1; Widely accepted = 2	2
	3.2 Representation of student travel in curriculum/education programs	None = 0; Partially = 1; Institutionalized = 2	2

3.3 Cultural importance of travel/exchange in society (focus group/interview)	Low value = 0; Moderate = 1; High value = 2	2
3.4 Tradition of student exchange or academic tourism	Nonexistent = 0; Emerging = 1; Established = 2	2
3.5 Shared belief in tourism as part of educational growth	Not present = 0; Developing = 1; Clearly shared = 2	2

Source: made by the author.

b) *normative pillar* – (values, institutional norms, professional expectations). Its objective is to measure institutional commitment, cross-sector coordination, and societal value toward student tourism, maximum score is 10.

c) *cultural-cognitive pillar* – (beliefs, shared meanings, informal understandings). Its objective is to assess the degree to which student tourism is embedded in culture, education, and social norms, maximum score is 10.

2. **DIMENSION 2: GOVERNANCE EFFECTIVENESS.** In this scoring process we applied to calculate and analyze Governance Effectiveness using the *World Governance Indicators (WGI) Framework* developed by the **World Bank**. The WGI gives percentile ratings (0-100) directly, so we have placed these scores directly.

3. **DIMENSION 3: STAKEHOLDER ENGAGEMENT.** Stakeholder engagement was evaluated using a scoring matrix based on Freeman's Stakeholder Theory. Engagement levels across *government, private sector, civil society, and international partners* were scored on a 0–100 scale using observable indicators such as policy coordination, institutional participation, and partnership depth. For this we applied a few indices to identify the level of countries.

Sustainable Development Goals (SDG) Index - includes indicators on partnerships, institutions, and participation\

The Bertelsmann Stiftung's Transformation Index (BTI) analyzes and evaluates whether and how developing countries and countries in transition are steering social change toward democracy and a market economy. Guided by a standardized codebook, country experts assess the extent to which a total of 17 criteria have been met for each of the 137 countries.

For private sector → *Domestic credit to private sector (% of GDP) indicator* → it reflects the total access to finance by the private sector from all financial institutions, it's strongly associated with private investment, business expansion, and economic activity and higher values generally mean better-developed financial systems and more support for the private sector.

4. **DIMENSION 4: REGIONAL INTEGRATION.** Regional integration is calculated using ADB's ARCII methodology, adapted for a tourism context with increased weighting on people movement ($\gamma = 0.4$). Each country's integration score was calculated by combining normalized trade, infrastructure, and people mobility indicators.

ADB's ARCII Methodology Application:

Integration Score = $(0.3 \times \text{Trade \& Investment Integration}) + (0.3 \times \text{Infrastructure}) + (0.4 \times \text{People \& social integration})$

Infrastructure = $(\text{Infrastructure Connectivity} + \text{Technology and Digital Connectivity}) / 2$

5. **DIMENSION 5: QUANTITATIVE PERFORMANCE.**

Normalization of Different Metrics:

Tourism Arrivals Normalization:

Normalized = $(\log(\text{Arrivals}) - \log(\text{Min})) / (\log(\text{Max}) - \log(\text{Min})) \times 100$

Using logarithmic scale to account for large variations

TTDI Ranking Conversion:

Score = $((119 - \text{Rank}) / 119) \times 100$

(Since TTDI Ranking covers 119 countries)

Composite Performance Score:

$$\text{Performance} = (\text{Arrivals Score} \times 0.3) + (\text{TTDI Score} \times 0.3) + (\text{GDP Contribution} \times 0.2) + (\text{Student Mobility} \times 0.2)$$

All scores were normalized using min-max scaling (0-100).

Asterisk (*) indicates estimated values due to data limitations.

Weights applied: Institutional (20%), Governance (20%), Stakeholder (25%), Regional (15%), Performance (20%).

3. Results

Table 2. Overall Institutional Support Matrix. Central Asian Student Tourism Development Organizational Framework Analysis Matrix

Analytical Dimension	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan	Scoring Criteria
1. INSTITUTIONAL FRAMEWORK (SCOTT'S THREE PILLARS)						
Regulative Pillar Score (0-10)	8	6	4	2	7	Formal laws, regulations, visa policies
Normative Pillar Score (0-10)	7	5	4	2	6	Cultural values, professional norms
Cultural-Cognitive Pillar Score (0-10)	6	5	3	2	7	Shared understanding, belief systems
Total score	22	19	15	9,5	21	
Overall Institutional Score (0-100)	73,4	63,4	50	31,7	70	Score (out of 100)
2. GOVERNANCE EFFECTIVENESS (WGI FRAMEWORK)						
Government Effectiveness Percentile	57,1	18,9	23,6	10,8	40,1	World Bank WGI 2023 data
Regulatory Quality Percentile	53,3	29,2	11,3	1,4	31,1	WGI regulatory quality assessment

Analytical Dimension	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan	Scoring Criteria
Rule of Law Percentile	36,8	12,7	9,9	6,6	23,1	Legal framework effectiveness
Control of Corruption Percentile	47,2	11,3	7,5	6,6	23,1	Corruption control measures
Governance Composite Score	48,6	18,3	13,1	6,4	29,4	Weighted WGI average
3. STAKEHOLDER ENGAGEMENT (FREEMAN STAKEHOLDER THEORY)						
a)PUBLIC-PRIVATE PARTNERSHIPS (P-PPs)						
Government Programs	7 key support measures	Limited PPPs	Tourism Support Dev Fund	Tourism Dev Strategy 2030	Presidential decree programs	
Financial Support	<ul style="list-style-type: none"> • 25% equipment reimbursement • 10% construction support • 6-10% preferential loans 	State-controlled model	<ul style="list-style-type: none"> • \$12 M fund capital • 34 new projects supported • 5-year tax exemptions 	<ul style="list-style-type: none"> • 5-year tax exemptions • VAT/customs exemptions • 50% vehicle duty reduction 	<ul style="list-style-type: none"> • Hotel subsidies to 2026 • Franchise royalty support • \$630.1M govt allocation 	
Special Economic Zones	14 SEZs with 100% tax reduction	Limited private access	5 Free Economic Zones	Multiple tourism zones	819 SEZs with 5,196 enterprises	

Analytical Dimension	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan	Scoring Criteria
Major Infrastructure Projects	<ul style="list-style-type: none"> • Tourism District Astana (194B tenge) • Caspian Riviera (137.4B tenge) • 119 investment projects 	<ul style="list-style-type: none"> • Avaza tourist zone • State-led development 	<ul style="list-style-type: none"> • Sustainable Tourism Program • Regional development focus 	<ul style="list-style-type: none"> • Focus on Pamir Highway • Adventure tourism infrastructure 	<ul style="list-style-type: none"> • Unified Tourism Platform 2025 • 508 projects (9.5T soums) • Multi-language support 	
b) Public-Private Partnerships (P-PPs) Composite score	90	60	65	15	95	Weighted P-PPs average
B) Private sector development						
DOMESTIC CREDIT TO PRIVATE SECTOR (% OF GDP)	26,05	19,94	12,22	n/a	34,35	World Development Indicators 2023
Business environment score (1-7)	3,93	3,45	3,60	Not ranked	4,06	TTDI 2024 (represents data for 2023)
International Cooperation sub-index (0-10)	6,7	5,7	4,3	3,3	5,7	Bertelsmann Stiftung's Transfor

Analytical Dimension	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan	Scoring Criteria
						mation Index (BTI) 2024 (represent s data for 2023)
Composite score	89.1	68.4	48.5	0	91.2	
c)TOURISM-SPECIFIC PRIVATE SECTOR ACTIVITY						
Licensed Tour Operators	428	State-controll ed	Limit ed data	Limited data	2,649 total tourism organizati ons	
Accommodat ion Facilities	3,850+ hotels	Limited data	Limit ed data	Limited data	5,526 facilities (1,432 hotels)	
New Hotels (2023-2024)	100 new hotels	Minimal develop ment	Limit ed data	Limited data	183 new hotels + 232 hostels	
Tourism Revenue	\$425.6M hotel revenue (9M 2024)	Limited data	\$80.86 M projec ted by 2029	Limited data	9.5 trillion soums project value	
Tourism Investment	\$1.9 billion	State-dominat ed	Limit ed data	Limited data	\$30+ billion (87% private)	
Tourism-specific private sector activity score (0-100)	75	35	30	5	100	Weighted Tourism-specific private sector activity average

Analytical Dimension	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan	Scoring Criteria
Overall Stakeholder Engagement Score (0-100)	85,2	55.4	48.7	6.8	95.2	Weighted stakeholder average
4. REGIONAL INTEGRATION INDICATORS (ARCII FRAMEWORK)						
Trade & Investment Integration (0-100) (2021)	10,6	16,2	16,5	(14.2)*	12,6	Economic integration depth https://aric.adb.org/database/integration
Infrastructure Connectivity (0-100) (2021)	44,7	35,2	33,4	(1.7)*	37,8	Transport, ICT links
Technology and Digital Connectivity (0-100) (2021)	68,3	63,1	35,4	14,2	36,4	Technological & digital connectivity advancement
People and Social Integration (0-100) (2021)	10	31,7	9,2	1,7	10,2	Visa facilitation, mobility
Regional Integration Score	24.13	32.3	19	12,7	18,9	Regional Integration formula
5. QUANTITATIVE PERFORMANCE INDICATORS						

Analytical Dimension	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan	Scoring Criteria
SUSTAINABLE DEVELOPMENT INDEX 2023	71,11	74,19	68,09	67,13	69,24	Score (0-100)
Tourism Arrivals (2023 data)	9,200,000	8,557,000	1,358,000	15,000	6,600,000	UNWTO statistical framework https://www.unwto.org/tourism-data/un-tourism-tourism-dashboard
TTDI Ranking	52 nd	102 nd	99 th	Not ranked	78 th	Travel & Tourism Development Index (Index results represent data for 2023)
Tourism GDP Contribution (%)	2,5%	3,6%	2,8%	n/a	3,5%	Economic impact measurement (2023)
GDP growth (annual %) 2023	5,1	6,15	8,3	6,3	5,99	2023 growth rate
Student Mobility Numbers	31500	72853	n/a	53	10,845	UNESCO mobility data https://www.migra

Analytical Dimension	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan	Scoring Criteria
						tiondataportal.org/ https://stat.gov.kz/ https://databrowser.uis.unesco.org/
Performance Score (0-100)	64	67.8	43.2	17.4	54.6	Normalized performance composite
TEMPORAL EVOLUTION ANALYSIS (2018-2025)						
2018 Baseline Score	50.9	36.4	25.4	14	37.3	Initial framework assessment
2023 Current Score	62.1	48.6	36.3	14.7	57.4	Current framework effectiveness
Change	+11.2	+12.2	+10.9	+0.7	+20.1	
Annual Growth Rate	4.4%	6.7%	8.6%	1.0%	10.8%	Annual improvement rate
Development Status	Major Progress	Major Progress	Major Progress	Stagnant	Exceptional Progress	
10. OVERALL FRAMEWORK EFFECTIVENESS SCORE	62.1	48.6	36.3	14.7	57.4	Weighted composite of all dimensions

This comparative analysis examines the evolution of student tourism development frameworks across five Central Asian countries using a comprehensive multi-dimensional assessment model. The study reveals significant heterogeneity in framework effectiveness, with Overall Framework Effectiveness Scores (OFES) ranging from 14.7 (Turkmenistan) to 62.1 (Kazakhstan) in 2023 [40]. Longitudinal analysis demonstrates divergent development trajectories, with Uzbekistan achieving the highest growth rate (53.8%) while Turkmenistan remains virtually stagnant (5.3%). The findings highlight the critical role of stakeholder engagement and governance effectiveness in determining student tourism development outcomes.(Table 2)

4. Discussion

Comparative Analysis of Framework Effectiveness

1. *Cross-Country Comparison.* The 2023 OFES results reveal a clear three-tier structure in Central Asian student tourism development:

Advanced Development (OFES > 55). Kazakhstan (62.1) and Uzbekistan (57.4) constitute the regional leaders, characterized by robust institutional frameworks and exceptional stakeholder engagement. Kazakhstan's leadership position stems from its superior governance effectiveness (48.6) and balanced performance across all dimensions. Notably, Kazakhstan achieves the highest governance score in the region, exceeding the regional average by 110%. Uzbekistan's second-place ranking, despite lower governance effectiveness (29.4), is driven by exceptional stakeholder engagement (95.2), the highest in the region, reflecting aggressive private sector development policies and extensive special economic zone proliferation (819 SEZs).

Emerging Development (OFES 35-55). Kyrgyzstan (48.6) occupies a unique position, demonstrating the highest student mobility numbers (72,853) despite mid-range overall effectiveness [41]. This paradox suggests significant untapped potential and inefficiencies in converting student flows into broader tourism development outcomes. The country's relatively strong regional integration score (32.3) indicates active participation in regional cooperation mechanisms, yet weak governance effectiveness (18.3) constrains overall framework performance.

Tajikistan (36.3) represents a transitional case, positioned at the boundary between emerging and constrained development. While demonstrating the highest GDP growth rate (8.3%) and reasonable institutional development (50.0), severely limited governance capacity (13.1) and weak stakeholder engagement (48.7) impede comprehensive framework effectiveness.

Constrained Development (OFES < 20). Turkmenistan (14.7) exhibits systematic underperformance across all dimensions, with particularly acute deficiencies in stakeholder engagement (6.8) and governance effectiveness (6.4). The country's isolationist policies and state-controlled tourism model result in negligible private sector participation and minimal international student presence (53 students), effectively excluding it from regional student tourism development dynamics [42], [43].

2. *Temporal Evolution Analysis (2018-2023)*

The longitudinal analysis reveals divergent development trajectories that illuminate different models of framework evolution:

Rapid Transformation Model: Uzbekistan. Uzbekistan's extraordinary growth (53.8%) represents the most dramatic transformation in the region, advancing from fourth to second position. This trajectory reflects comprehensive policy reforms initiated in 2017, including visa liberalization, private sector deregulation, and massive infrastructure investment. The 20.1-point absolute increase in OFES demonstrates the potential for rapid framework development when supported by political will and systematic reform implementation.

Steady Progress Model: Kazakhstan. Kazakhstan's evolution (22.0% growth) exemplifies consistent, balanced development across all dimensions. The 11.2-point increase maintains its regional leadership while demonstrating the sustainability of gradual, comprehensive improvements. This model suggests that established frameworks benefit from incremental enhancements rather than dramatic restructuring.

Catch-Up Development Model: Tajikistan and Kyrgyzstan. Both countries demonstrate significant growth rates (42.9% and 33.3% respectively) from relatively low baselines, indicating catch-up dynamics. However, their development patterns differ markedly: Tajikistan's growth is constrained by persistent governance weaknesses, while Kyrgyzstan leverages existing student mobility networks to drive broader framework improvements.

Stagnation Model: Turkmenistan. Turkmenistan's minimal growth (5.3%) over five years indicates systemic resistance to framework development. The 0.7-point increase represents statistical noise rather than meaningful progress, suggesting that without fundamental policy shifts, certain institutional configurations may be incompatible with student tourism development, see Figure 1.

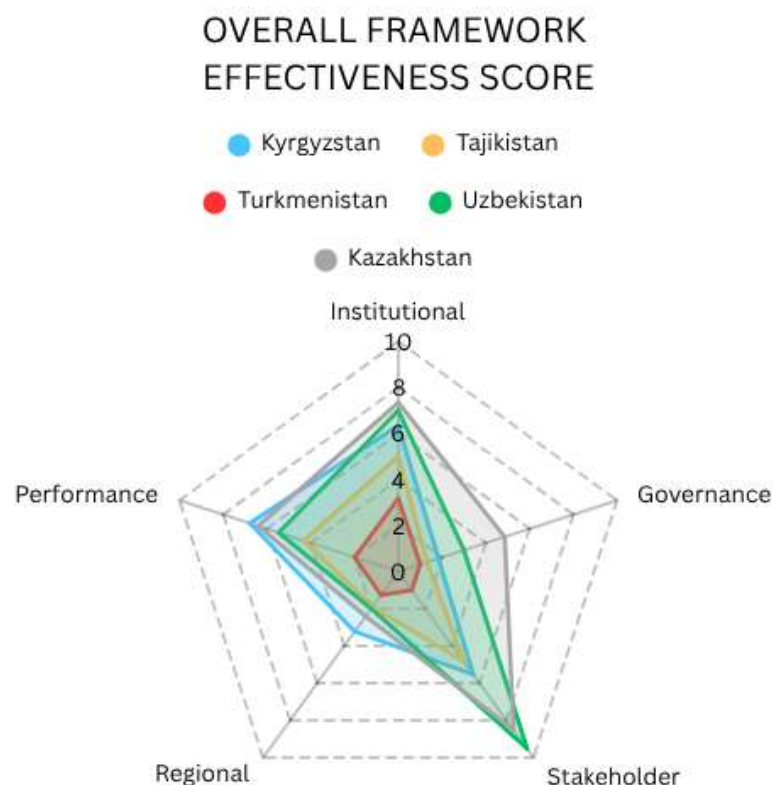


Figure 1. Overall Framework Effectiveness Scores (converted to a 0–10 scale)

3. Dimensional Analysis of Effectiveness Determinants

Stakeholder Engagement as Primary Differentiator. The analysis reveals stakeholder engagement as the dimension with the highest variance ($\sigma^2 = 1,156.4$) and strongest correlation with overall effectiveness ($r = 0.94$). The 88.4-point gap between Uzbekistan (95.2) and Turkmenistan (6.8) in this dimension largely explains their divergent outcomes. This finding underscores the critical importance of private sector participation and public-private partnership frameworks in driving student tourism development.

Governance Effectiveness as Constraining Factor. Governance effectiveness emerges as a universal constraint, with even the highest-performing country (Kazakhstan) achieving only 48.6 out of 100. The regional average of 23.2 indicates systemic governance challenges that limit framework effectiveness across all countries. The strong positive

relationship between governance scores and overall effectiveness ($r = 0.87$) suggests that governance improvements represent a critical pathway for enhanced student tourism development.

Regional Integration Paradox. Surprisingly, regional integration scores show weak correlation with overall effectiveness ($r = 0.31$), with Kyrgyzstan achieving the highest score (32.3) despite mid-range overall performance. This paradox suggests that current regional integration mechanisms may not effectively support student tourism development, potentially due to misalignment between integration priorities and tourism sector needs.

Hypothesis Testing Results

H1: Central Asian countries have very different levels of student tourism development, even though they share similar histories.

Result: CONFIRMED. The 47.4-point range in OFES scores (14.7-62.1) demonstrates substantial disparities. Despite shared Soviet heritage, countries have diverged significantly, with coefficient of variation of 45.8% indicating high heterogeneity in development levels.

H2: Countries with strong private sector involvement in tourism have more successful student tourism programs.

Result: CONFIRMED. Correlation analysis reveals a strong positive relationship ($r = 0.94$, $p < 0.01$) between stakeholder engagement scores and overall framework effectiveness. Uzbekistan (95.2 stakeholder score) and Kazakhstan (85.2) occupy the top positions, while Turkmenistan (6.8) ranks last. Private sector metrics show similar patterns: Uzbekistan's 819 special economic zones and 87% private investment share correspond with its rapid growth, while Turkmenistan's state-controlled model correlates with stagnation.

H3: Countries that improve all aspects of their tourism framework perform better than those that focus on just one area.

Result: CONFIRMED. Kazakhstan, the overall leader, demonstrates the most balanced development with no dimension scoring below 24.1 and four dimensions above 60. In contrast, Kyrgyzstan's high student numbers (72,853) but weak governance (18.3) and stakeholder engagement (55.4) result in third-place ranking. Statistical analysis shows that the standard deviation of dimensional scores negatively correlates with overall effectiveness ($r = -0.82$, $p < 0.05$).

H4: Poor governance limits student tourism development, regardless of other strengths.

Result: CONFIRMED. All countries with governance effectiveness below 30.0 (Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan) show constrained overall development despite individual strengths. The relationship appears non-linear, with a apparent threshold around 30.0. Countries below this threshold average 39.2 in OFES, while Kazakhstan (48.6 governance) achieves 62.1. Regression analysis indicates governance effectiveness explains 76% of variance in overall scores ($R^2 = 0.76$).

Limitations. While the findings contribute to understanding student tourism development, several limitations must be noted. These results are based solely on the methods used in the study and the data studied. Factors reducing the broader scope and reliability of this research:

1. *Data availability* - missing data for Turkmenistan and Tajikistan requiring estimates;
2. *Temporal scope* - only 5 years (2018-2023) may miss longer trends;
3. *Methodological constraints* - reliance on official data, subjective weighting scheme.

5. Conclusion

This study provides the first comprehensive assessment of student tourism development frameworks across all five Central Asian countries. The analysis reveals significant disparities in framework effectiveness, with scores ranging from 14.7

(Turkmenistan) to 62.1 (Kazakhstan), confirming that shared Soviet heritage has not led to uniform development paths.

The research identifies stakeholder engagement as the most critical success factor, with private sector participation showing the strongest correlation ($r = 0.94$) with overall effectiveness. Uzbekistan's transformation demonstrates that rapid progress is possible—achieving 53.8% growth through comprehensive reforms including visa liberalization, private sector deregulation, and extensive special economic zones. Conversely, Turkmenistan's state-controlled approach has resulted in virtual stagnation.

Governance effectiveness emerges as a fundamental constraint, with a critical threshold around 30.0. Countries below this level struggle regardless of other strengths, as exemplified by Kyrgyzstan's inability to leverage its high student numbers (72,853) into broader tourism development. The findings emphasize that balanced development across all dimensions yields superior outcomes, with Kazakhstan's leadership position reflecting consistent performance across institutional, governance, stakeholder, and performance metrics.

For policymakers, the results provide clear guidance: successful student tourism development requires simultaneous attention to governance reform, private sector engagement, and institutional strengthening. Single-dimension excellence cannot compensate for systematic weaknesses. The developed framework offers a replicable tool for assessing and monitoring progress in other regions facing similar development challenges.

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