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ANALYSIS AND IMPLEMENTATION OF ESG PRINCIPLES IN HIGHER EDUCATION: INTEGRATING PROJECT MANAGEMENT AND SUSTAINABILITY PRACTICES IN KAZAKHSTAN

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ABSTRACT

Purpose of the research. The aim is to analyze the integration of Environmental, Social, and Governance (ESG) principles into higher education in Kazakhstan through the lens of project management (PM), and to propose a framework for aligning sustainability initiatives with institutional reforms.

Methodology. The study applies a qualitative research design based on secondary data analysis combined with a SWOT analysis of Kazakhstani higher education institutions. Comparative case studies of Nazarbayev University (NU) and Al-Farabi Kazakh National University (KazNU) were examined, with reference to global best practices.

Originality / value. The research provides one of the first systematic assessments of ESG adoption in Kazakhstan's higher education sector, linking sustainability governance with project management models (P5, PRiSM, Agile). It contributes to the emerging discourse on ESG in Central Asia, offering a hybrid PM framework adaptable to the regional context of limited funding, centralized governance, and hydrocarbon dependence.

Findings. Results show that Kazakhstani universities have strong potential in social inclusivity and governance but face weaknesses in environmental sustainability and PM institutionalization. The SWOT analysis indicates that strengths (internationalization, social reforms) and opportunities (faculty training, global partnerships) can outweigh threats (funding gaps, governance constraints) if managed through hybrid ESG-PM models. Case evidence demonstrates measurable outcomes, such as energy savings (KazNU) and a 10% increase in digital literacy (NU). Scaling requires structured monitoring and interdisciplinary engagement to position Kazakhstan as a regional leader in sustainable higher education.

Key words: project management, higher education, Environmental, Social (ESG) principles, and Governance, Kazakhstani HEIs.

INTRODUCTION

The integration of Environmental, Social, and Governance principles into higher education institutions has become a strategic priority for advancing the United Nations' Sustainable Development Goals, adopted in 2015 [1]. With global ESG investments exceeding $30 trillion and growing at 15% annually, HEIs play a critical role in promoting sustainability through education, research, and operational practices [2, 3]. By embedding ESG into curricula, campus management, and governance, HEIs contribute to SDGs 4 (Quality Education), 7 (Affordable and Clean Energy), and 13 (Climate Action), shaping future leaders and societal values [4]. Project management methodologies, such as People, Planet, Prosperity, Process, Product (P5), Projects integrating Sustainable Methods, and Agile, enhance ESG initiative efficacy by up to 40%, offering structured frameworks for complex implementation processes [5].

In Kazakhstan a rapidly developing country in Central Asia with 112 universities serving over 680,156 students, according to the Ministry of Science and Higher Education of the Republic of Kazakhstan the implementation of ESG is at an early stage [6]. This is due to an economy heavily reliant on hydrocarbons (70% of GDP), centralized governance controlling 80% of university budgets, and limited awareness of the Sustainable

Development Goals (SDGs) among 30% of students and 40% of faculty members [7, 8]. Additional challenges include the digital divide, with 54% of students lacking basic digital skills and 60% of rural areas without reliable internet access, as well as a funding gap estimated at USD 100 million [7]. Despite these barriers, Kazakhstan's young demographic (60% of the population is under 30), internationalization efforts aimed at increasing the number of international students from 30,711 to 50,000 by 2025, and educational reforms under the Bologna Process and the 2018 Education Law present opportunities for advancing sustainability [8].

However, institutional resistance, with 80% of faculty favoring traditional models, and economic priorities call for context-specific strategies based on global best practices. This study aims to analyze the integration of ESG principles in higher education through PM methodologies, focusing on global trends and their applicability to Kazakhstan, and to propose a tailored implementation framework. Its objectives are:

1. to conduct a comparative analysis of global and local ESG initiatives;
2. to examine case studies of Al-Farabi Kazakh National University (KazNU) and Nazarbayev University (NU).
3. to develop mechanisms for overcoming institutional and financial barriers; and
4. to propose a long-term evaluation and monitoring system. The article is structured as follows: the theoretical framework outlines ESG and PM concepts; methodology justifies the approach; comparative analysis contrasts practices; the proposed framework presents a model; discussion, recommendations, and conclusion synthesize findings.

This research contributes to adapting ESG for Kazakhstan, positioning it as a potential leader in Central Asian sustainability.

Literature review. Contemporary research underscores the growing significance of ESG (Environmental, Social, Governance) principles as a foundation for transforming the university environment. The adoption of environmental practices, enhancement of social inclusion, and improvement of governance have emerged as critical directions for the sustainable development of higher education institutions. For instance, Alenezi and Alanazi proposed a comprehensive model for integrating ESG principles into higher education, encompassing six components: curriculum integration, research and innovation, campus operations, community engagement, leadership and governance, and assessment and reporting. This model is supported by eight implementation strategies and examples of successful ESG initiatives across various institutions [9].

Organizational learning is a critical enabler of ESG performance. A systematic review by Xia, published in Sustainability, covers the period from 2001 to 2021 and analyzes 57 peer-reviewed articles from databases such as Web of Science, Emerald Insight, and Springer. The study found that organizational learning is instrumental in identifying factors and mechanisms that facilitate ESG goal achievement. The author developed a conceptual framework comprising two learning cycles [10]:

1. Single Loop (Process): Encompasses aspects such as control systems, decision-making, ethics, gender equality, human resource management, knowledge management, risk management, and training.
2. Double Loop (People): Involves practitioners, professionals, managers, and top management teams (TMT), who shape organizational values and norms.

Xia emphasizes the importance of the "2P" approach (people and process) for implementing ESG strategies, suggesting future research explore a "PPT" framework (people, process, technology). Over 88% of the analyzed articles demonstrated a positive impact of organizational learning on ESG performance, with 89 single-loop and 12 double-loop instances identified. Internal governance (e.g., decision-making at 33.93%, knowledge management at 25%) and management (13.48%) dominate single-loop processes, while TMT and managers are pivotal in double-loop learning.

Organizational learning is pivotal in enhancing ESG outcomes. Xia demonstrates that single-loop learning, which is related to staff training and knowledge management and double-loop learning, which is used to describe strategic and cultural shifts improve ESG performance. In higher education, this may involve:

- Staff training: Programs on ESG and sustainability for faculty and administrative staff.
- Knowledge management: Creating databases and platforms for sharing ESG best practices.
- Risk management: Integrating ESG risks into strategic planning.

These approaches can be adapted to enhance project management in universities.

Agile methodologies, as a project management approach, significantly contribute to developing sustainability competencies in education. A systematic review by López-Alcarria, Olivares-Vicente and Poza-Vilches, analyzed 121 studies and found that agile methodologies foster competencies such as critical thinking, uncertainty management, communication, respect for others' opinions, teamwork, dialogue, responsibility, and systems thinking. These competencies align directly with Education for Sustainable Development (ESD) goals, a core component of the ESG framework. Agile methodologies are predominantly applied in higher education but also extend to professional training and secondary education. Grounded in constructivist, connectivist, and cooperative learning approaches, they are effective for developing ESG-related competencies, as emphasized by López-Alcarria, Olivares-Vicente and Poza-Vilches [11].

ESG initiatives in higher education span three main categories: environmental, social, and governance. Research indicates these initiatives are increasingly prioritized by HEIs, attracting students, faculty, and donors.

- Environmental initiatives: Include energy efficiency (retrofitting buildings with LED lighting), green transportation (electric shuttles, bike-sharing programs), and biodiversity preservation (maintaining campus green spaces). According to Lundy, Reynolds, Auton-Smith, 75% of 176 surveyed HEIs in 2022 identified environmental sustainability as a stakeholder priority [12].
- Social initiatives: Focus on improving well-being and inclusivity, including diversity programs, health initiatives, and community engagement. For instance, HEIs develop programs to support equal opportunities and local community partnerships.
- Governance initiatives: Center on transparency and ethics, including regulatory compliance (climate disclosure requirements) and ESG policy development. A notable example is the University of Gävle's classification procedure, which requires faculty to assess courses and research projects for environmental and sustainable development (E/SD) content, fostering accountability and reflection, according to Sammalisto and Lindhqvist. This process, embedded in the university's ISO 14001-certified Environmental Management System, classifies courses as having major, minor, potential, or no E/SD content, encouraging integration across disciplines [13].

Alenezi and Alanazi stress that integrating these initiatives requires a systemic approach encompassing curriculum, research, campus operations, and community engagement [9].

In his article, Ben-Redouane emphasizes the growing need to embed Environmental, Social, and Governance principles into project management practices. It argues that traditional success metrics time, budget, and scope are no longer sufficient; modern projects must also deliver long-term sustainability and social value. According to the author, ESG considerations can be integrated across all stages of the project lifecycle:

- Initiation – assessing environmental and social risks;
- Planning – incorporating ESG indicators and stakeholder engagement strategies;
- Execution – ensuring transparency, inclusiveness, and ethical conduct;
- Closure – evaluating long-term contributions to sustainable development.

Project management provides a structured approach to implementing ESG initiatives, leveraging methodologies that integrate sustainability. Key methodologies include:

- P5 Standard: Developed by Green Project Management (GPM), it covers five aspects: people, planet, prosperity, process, and product. Studies indicate that P5-aligned projects can reduce energy consumption by 30%-50%, water usage by 40%, and carbon emissions by 35% (https://projectmanagement.ie/blog/integrating-esg-principles-into-project-management/).
- PRiSM (Projects integrating Sustainable Methods): Offers a lifecycle-based approach, including initiation, planning, execution, monitoring, and closure, with a focus on sustainable practices.
- Sustainability Management Plan (SMP): Incorporates risk management strategies, sustainability goal-setting, performance tracking, and stakeholder engagement.

These methodologies increase the likelihood of achieving sustainability goals by 40%, particularly when implemented by certified professionals, as noted in research, according to Ben-Redouane [14].

Research Methodology

Comparative analysis was selected to juxtapose global and Kazakhstani ESG and PM practices, identifying transferable strategies and context-specific barriers. This method excels in contrasting structured PM ap-

proaches (e.g., North America, Europe) with Kazakhstan's emergent practices, facilitating contextually relevant recommendations. Case studies of KazNU and NU provide empirical depth, illuminating local challenges and solutions, enhancing the study's practical applicability.

Comparative analysis of PM and ESG Initiatives in higher education

Comparative analysis of PM and ESG practices across continents and Kazakhstan reveals diverse approaches, strengths, and challenges. Tables 1 and 2 summarize these findings, comparing global regions and Kazakhstan across ESG dimensions and PM methodologies.

Table 1 – Comparison of ESG initiatives in higher education by region

№	Region	Environmental	Social	Governance
1.	**North America**	Renewable energy projects (UC Davis solar panels)	DEI programs (University of Michigan community engagement)	GRI-aligned reporting; transparent endowment management
2.	**Europe**	LEED-certified campuses (University of Copenhagen)	ESD competencies via curricula (critical thinking)	EMS-based classification (Gävle)
3.	**Asia**	Smart campuses with renewable energy (Nanyang Technological University)	Regional labor standards; inclusive education	UN Global Compact alignment; transparency via ESG reporting
4.	**Latin America**	Community-based reforestation (Brazilian universities)	Social entrepreneurship programs (Tecnológico de Monterrey)	Limited PRI alignment; informal governance structures
5.	**Africa**	Community water management (Kenyan universities)	Service-learning addressing poverty (University of Cape Town)	Inconsistent regulations; NGO-supported governance
6.	**Kazakhstan**	Limited; UN-backed events (KazNU World Environment Day)	Inclusive policies (50% grants for vulnerable groups)	Bologna-aligned accreditation; no ESG mandates
Note – [2, 5, 7, 8, 11, 13, 16, 17, 18, 19, 20].				

Table 2 – Comparison of PM methodologies in ESG

№	Region	Primary project management methodologies	Key applications	Challenges
1.	**North America**	PRiSM, Agile (EY, 2022)	PRiSM for renewable energy; Agile for DEI programs (EY, 2022; McKinsey, 2019)	High costs; conservative resistance
2.	**Europe**	P5, Agile	P5 for campus sustainability; Agile for curriculum development	Varying national priorities
3.	**Asia**	P5, Traditional PM	P5 for ESG reporting; Traditional PM for smart campuses	Resource constraints in smaller HEIs
4.	**Latin America**	Participatory PM, Agile	Participatory PM for reforestation; Agile for social entrepreneurship	Funding limitations; informal PM structures
5.	**Africa**	Agile, Participatory PM	Agile for service-learning; Participatory PM for water management	Resource scarcity; lack of PM expertise
6.	**Kazakhstan**	Ad hoc PM	Implicit in Bologna reforms, digitalization; no formalized ESG focus	Expertise gaps; no P5/PRiSM adoption
Note – [2, 5, 7, 11, 13, 16, 17, 18, 19, 20].				

Globally, higher education institutions embed Environmental, Social, and Governance principles into their curricula, campus operations, and administrative structures, using project management methodologies to achieve measurable sustainability outcomes [9]. These efforts align with international frameworks, such as the

United Nations Global Compact, which encourages sustainable practices, and the Principles for Responsible Investment (PRI), which promote ethical financial management [17]. The following subsections examine how HEIs across different continents implement ESG through PM, highlighting regional priorities, challenges, and strategies.

1.North America

In North America, higher education institutions (HEIs) focus on environmental and social ESG aspects, using Projects integrating Sustainable Methods (PRiSM) and Agile project management. The University of California, Davis, applies PRiSM to shift to renewable energy with solar panels and efficient buildings, cutting CO2 emissions by 30% and saving $2 million yearly [16]. The University of British Columbia uses Agile PM, with its flexible cycles, to run a zero-waste program, diverting 70% of waste through student and staff collaboration. Governance follows the Global Reporting Initiative (GRI) for clear reporting on energy and waste metrics [2]. Social efforts, like the University of Michigan's Diversity, Equity, and Inclusion (DEI) programs, use Agile PM to involve over 10,000 students annually in community outreach [16].

2. Europe

European higher education institutions (HEIs) excel in integrating Environmental, Social, and Governance (ESG) principles with a strong focus on governance, employing the People, Planet, Prosperity, Process, Product (P5) and Agile project management methodologies [17]. The University of Gävle in Sweden utilizes an ISO 14001-certified Environmental Management System (EMS) to evaluate 82% of its courses and 90% of its research for Education for Sustainable Development content, while training approximately 200 faculty members in sustainability practices [13]. Additionally, Agile PM enhances curriculum development, fostering critical thinking skills in 80% of students [11]. The University of Copenhagen applies the P5 framework to manage its Leadership in Energy and Environmental Design (LEED)-certified campuses, achieving a 40% reduction in energy consumption and saving €1.5 million annually [5]. Governance practices align with the European Union's Corporate Sustainability Reporting Directive (CSRD), which mandates ESG reporting for HEIs. Although the 27 EU member states have diverse national priorities, EU frameworks promote standardization, though harmonizing different systems remains a challenge [17].

3. Asia

Asian HEIs emphasize governance and social ESG, applying P5 and traditional PM approaches. Malaysian universities adopt P5 to enhance ESG reporting, increasing institutional transparency and attracting 15% more international students [19]. Singapore's Nanyang Technological University uses traditional PM for its smart campus initiative, incorporating 20% solar energy and digital learning platforms to support sustainability [2]. Social ESG efforts ensure equitable access for 15% of foreign students, aligning with regional labor standards (United Nations Educational, Scientific and Cultural Organization). Smaller HEIs face resource constraints, with 50% lacking adequate funding, but government subsidies and collaborations through the Association of Southeast Asian Nations mitigate these challenges [18].

4. Latin America

In Latin America, higher education institutions prioritize social and environmental ESG dimensions, often using participatory project management for community-based initiatives like reforestation and agile PM to support social entrepreneurship programs [16]. Brazilian universities lead reforestation efforts, integrating Education for Sustainable Development to address biodiversity and equity. Challenges include funding shortages and reliance on informal PM structures due to limited training and resources [2,16].

5. Africa

African HEIs prioritize social ESG, using Agile and participatory PM methodologies. The University of Cape Town in South Africa integrates ESG through Agile-driven service-learning projects, engaging 2,000 student volunteers annually to address poverty and inequality [18]. Kenyan universities employ participatory PM for community water management initiatives, providing clean water to 10,000 residents. Governance is hindered by inconsistent regulations, but collaborations with the United Nations offer technical support [2]. Resource scarcity, with 70% of faculty untrained in PM, limits scalability, necessitating external funding from non-governmental organizations [18].

ESG and project management in Kazakhstan

Globally, PM methodologies enhance ESG integration in HEIs: PRiSM drives environmental initiatives in North America, P5 supports comprehensive sustainability in Europe and Asia, and Agile fosters social ESG in Europe, Africa, and Latin America. Governance practices align with GRI (Global Reporting Initiative), PRI (Principles for Responsible Investment), and CSRD (Corporate Sustainability Reporting Directive) standards, though challenges like inconsistent standardization and funding shortages persist [17]. Kazakhstan's 112 HEIs, serving over 600,000 students, are modernizing through alignment with the Bologna Process, a European framework for higher education reform, and the 2018 Law on Education, which emphasizes quality and access. ESG principles are indirectly addressed through quality assurance and inclusive efforts, such as state-funded grants for vulnerable students, but explicit ESG adoption remains limited. A thematic analysis of secondary sources highlights key trends and challenges in Kazakhstan's ESG and PM landscape. Low awareness of Sustainable Development Goals among students (30%) and faculty (40%), coupled with a hydrocarbon-driven economy (70% of GDP), prioritizes economic goals over sustainability. Centralized governance, controlling 80% of HEI budgets, restricts institutional flexibility to implement ESG initiatives [7, 8]. Opportunities for progress include adopting PM methodologies like P5 and PRiSM, as seen in global models, and leveraging international partnerships to enhance funding and expertise.

1. Environmental

Kazakhstan's higher education institutions demonstrate limited engagement with the environmental dimension of Environmental, Social, and Governance principles, in contrast to global leaders like the University of California, Davis, which powers its campus with renewable energy, or the University of Copenhagen, which operates Leadership in Energy and Environmental Design (LEED)-certified buildings, a globally recognized standard for sustainable construction [5, 16]. In Kazakhstan, environmental initiatives are sparse, constrained by low awareness of the United Nations' Sustainable Development Goals (SDGs) and economic priorities tied to the country's oil and gas sector, which accounts for 70% of gross domestic product [7, 8].

Al-Farabi Kazakh National University (KazNU) organizes annual World Environment Day roundtables supported by the United Nations, raising awareness among over 5,000 participants, including students and faculty. However, campus-level sustainability efforts, such as tree planting or energy-efficient infrastructure, remain absent [8]. Environmental education is largely confined to science, technology, engineering, and mathematics (STEM) programs, reaching only 20% of students, according to a 2022 study on Education for Sustainable Development, UNESCO framework for embedding sustainability in curricula. Limited funding further restricts investments in green technologies, as stakeholders prioritize economic development over environmental goals [7].

Case study: Al-Farabi Kazakh National University (KazNU)

Al-Farabi Kazakh National University, founded in 1934 in Almaty, Kazakhstan, is a leading higher education institution with over 25,000 students. It ranked 150th in the 2022 QS World University Rankings, positioning it as a Central Asian hub for sustainable development [21]. In 2023, KazNU initiated a campus energy audit under the United Nations' "Green Bridge Through Generations" program, aligning with Sustainable Development Goals (SDG) 7 (Affordable and Clean Energy) and 13 (Climate Action). The project, with a $500,000 budget including a $200,000 UN grant, aimed to reduce annual energy consumption by 15% (1,500 megawatt-hours [MWh]) and CO2 emissions by 10% (800 tons) by 2025 [21].

The audit revealed that 60% of KazNU's annual 10,000 MWh energy use came from outdated lighting and heating systems. The plan involved replacing 5,000 conventional lamps with energy-efficient LED bulbs and upgrading heating in three campus buildings, with 50 faculty members, 200 students, and 10 UN experts involved in planning. By late 2023, 2,000 LED lamps were installed, and heating in one building was modernized, achieving a 5% energy reduction (500 MWh), a 3% CO2 emissions drop (240 tons), and $50,000 in annual savings [21]. Despite these gains, the project faced challenges.

A key obstacle was stakeholder resistance: 60% of faculty saw it as a distraction from teaching, while 70% of students felt little personal benefit [21]. KazNU addressed this with 10 seminars for 300 faculty, highlighting $50,000 yearly savings and green economy career opportunities. Awareness campaigns, including student forums and social media, engaged 5,000 students, emphasizing their role in SDG progress. The project adopted

a PRiSM-inspired approach, focusing on sustainability throughout its lifecycle, countering skepticism from Kazakhstan's oil-dependent economy [16].

Financial constraints, with a $300,000 shortfall for scaling, were another hurdle. KazNU secured a public-private partnership (PPP) with Kazakhstan Electricity Grid Operating Company (KEGOC), contributing $100,000 for LED installations. Phased implementation in three buildings in 2024 cut costs by 20%, and a $500,000 grant application to the Asian Development Bank for 2024 funding helped [8]. These steps showed the value of diverse funding.

2. Social

Kazakhstan's efforts to advance the social dimension of Environmental, Social, and Governance principles in higher education align with global trends in Diversity, Equity, and Inclusion (DEI), which focus on ensuring equitable access to education for all groups. In the 2020–2021 academic year, 50% of state-funded grants were allocated to vulnerable populations, such as low-income or disabled students, demonstrating a commitment to social equity. Additionally, 28,169 international students were enrolled, reflecting Kazakhstan's ambition to become a regional hub for higher education [8, 16]. Initiatives like the Nazarbayev Intellectual Schools, which emphasize critical thinking and problem-solving, have influenced the curricula of higher education institutions, impacting approximately 30,000 students nationwide [7].

Despite these achievements, significant challenges persist, particularly in digital access and skills development. A digital divide affects 54% of students who lack basic digital competencies, and 60% of rural areas face unreliable internet access, exacerbating disparities between urban and rural [8]. These issues were intensified by the disruptions caused by the COVID-19 pandemic, which highlighted the need for robust digital infrastructure to ensure equitable education delivery. To address these challenges, stakeholders are exploring digital solutions, such as online learning platforms, which can be supported by Agile project management methodologies. Agile PM, characterized by flexible, iterative development cycles, has been effectively used in Europe and Africa to deliver stakeholder-driven education programs, offering a model for Kazakhstan to enhance access and engagement. By adopting such approaches, Kazakhstan's HEIs can better align with Sustainable Development Goals (SDGs) 4 (Quality Education) and 10 (Reduced Inequalities).

Case study: Nazarbayev University (NU)

Nazarbayev University (NU), founded in 2010 in Astana, Kazakhstan, serves as a flagship institution in innovative education. The university hosts more than 5,000 students and received government investments amounting to 7 billion Kazakhstani tenge (KZT) in 2021 [22]. In 2023, NU launched a Diversity, Equity, and Inclusion (DEI) program aimed at providing 2,000 rural students with online courses focused on sustainable development and digital skills. This initiative aligns with the United Nations Sustainable Development Goals (SDG) 4 (quality education) and 10 (reduced inequalities). The program was initiated with a budget of USD 1 million, of which USD 600,000 was allocated by the Ministry of Science and Higher Education of the Republic of Kazakhstan, with the goal of increasing digital literacy by 20% and engagement in ESG activities by 15% by 2024 [23].

To implement the program, a digital platform was hosted on the website admissions.nu.edu.kz, offering courses such as Climate Change and Social Entrepreneurship. By mid-2023, the platform had reached 1,000 students from rural regions. During the pilot phase, held from May to August 2023, 500 students from 10 rural districts were trained, achieving a 70% completion rate. In addition, 50 instructors were trained in Education for Sustainable Development (ESD) to support course delivery [23]. The pilot results demonstrated a 10% increase in digital literacy among participants; however, only 5% of students actively engaged in ESG projects, indicating the need to strengthen involvement in sustainability initiatives [8].

The program faced significant resistance from stakeholders. About 50% of rural communities considered online courses irrelevant to their pressing needs, while 40% of instructors expressed concerns about increased workload [22]. To overcome these barriers, NU developed a multi-level engagement strategy. An awareness campaign, reaching 10,000 people through social media and school presentations, emphasized career opportunities related to ESG skills, saving USD 100,000 through digital delivery. Workshops for 200 instructors highlighted alignment with the SDGs and Kazakhstan's national educational priorities, drawing on the successful experience of the University of Michigan [25]. Partnerships with local administrations (akimats) in

five regions ensured access to internet infrastructure, echoing community engagement approaches used in Cape Town's sustainability programs [25]. An Agile project management methodology, incorporating monthly feedback cycles, enabled adaptation of courses based on input from students and instructors, aligning with European ESD initiatives [24].

Financial constraints, including a USD 500,000 shortfall for program expansion, required innovative financing strategies. The Ministry of Science and Higher Education extended a grant of USD 600,000 for 2024, while collaboration with Microsoft provided USD 200,000 for digital tools. The online course format reduced delivery costs by 30%, enhancing financial efficiency [22]. However, a 2025 financial audit revealed mismanagement of university funds amounting to 73 billion KZT, underscoring the need to improve governance and transparency to maintain stakeholder trust [26].

3. Governance

Kazakhstan's governance practices in higher education demonstrate significant alignment with international standards, particularly those of the Bologna Process, which promotes transparency and quality assurance across European and partner countries. Approximately 90% of HEIs in Kazakhstan are accredited by agencies such as the Kazakhstan Society for Engineering Education (KAZSEE), ensuring compliance with academic and administrative standards [16]. Initiatives like the Academic Integrity League, established in 2018, and Al-Farabi Kazakh National University's (KazNU) participation in the United Nations Academic Impact Program foster ethical conduct and civic responsibility, engaging over 10,000 students in activities promoting academic honesty and sustainability [8].

However, unlike Sweden's Higher Education Act, which mandates Education for Sustainable Development across all HEIs, Kazakhstan lacks national policies requiring sustainability integration, limiting the adoption of ESG principles. Centralized governance, with 80% of HEI budgets controlled by the state, further restricts institutional autonomy and flexibility to implement innovative ESG initiatives [16]. To enhance governance, Kazakhstan could adopt models like the Environmental Management System (EMS), a structured framework for managing environmental impacts, as implemented at the University of Gävle in Sweden. An EMS-based approach could integrate sustainability metrics into accreditation processes, improving transparency and aligning with the Principles for Responsible Investment (PRI), which emphasize ethical and sustainable financial management [17]. Such reforms would strengthen Kazakhstan's governance framework, supporting long-term ESG integration in higher education.

4. Project Management

In Kazakhstan, PM practices within HEIs are largely informal and lack a specific focus on ESG principles. While the country's higher education system has modernized through alignment with the Bologna Process, a European framework for academic standards, and rapid digitalization during the COVID-19 pandemic (achieving 78% internet coverage by 2022), these efforts primarily address operational needs rather than sustainability goals (European Agency for Cooperation in Education and Culture). Faculty members often rely on unstructured coordination, such as informal task assignments or short-term planning, to manage projects like curriculum updates or campus improvements. A 2022 study found that 60% of faculty lack training in formal PM methodologies, limiting their ability to implement complex ESG initiatives effectively [7].

The absence of structured PM hinders Kazakhstan's ability to advance ESG integration, but global models offer pathways for improvement. The University of Gävle in Sweden provides a compelling example, having trained over 200 faculty members in a systematic PM approach to incorporate Education for Sustainable Development (ESD) into curricula and campus operations. This iterative training program, which includes workshops and feedback cycles, ensures faculty can apply PM principles to sustainability projects, such as course redesign or energy audits. Kazakhstan could adopt similar training programs to formalize PM practices, leveraging the momentum of ongoing educational reforms, such as the 2018 Law on Education, which emphasizes quality and innovation [7].

Implementing P5 or PRiSM methodologies would align Kazakhstan's HEIs with global standards. P5 could structure projects around stakeholder engagement (involving students and faculty), environmental goals (reducing campus energy use), and economic benefits (cost savings), as demonstrated in Malaysian universities [19]. PRiSM would ensure compliance with GRI standards, enhancing transparency in reporting ESG out-

comes, as seen in North American HEIs [2]. Training faculty in these methodologies could address expertise gaps, enabling Kazakhstan's 112 HEIs, serving over 600,000 students, to implement ESG initiatives more effectively and contribute to Sustainable Development Goals like SDG 4 (Quality Education) and SDG 13 (Climate Action).

SWOT analysis

Analysis of SWOT results and their implications for further research

Table 3 – Key factors influencing the implementation of Environmental, Social, and Governance (ESG) principles in higher education in Kazakhstan

S-strengths				
Factor	Description	Importance (0-1)	Score (1-5)	Total
Many international students	28,169 international students attract attention to ESG	0.4	5	2.0
Global standards	90% of universities follow the Bologna Process	0.3	4	1.2
Partner support	UN ($200,000) and KEGOC ($100,000) support projects	0.2	3	0.6
Successful projects	KazNU and NU have started ESG (energy audit, DEI)	0.1	3	0.3
4.1				
W-weaknesses				
Factor	Description	Importance (0-1)	Score (1-5)	Total
Low energy savings	Only 5% energy reduction vs. 30% globally	0.35	4	1.4
Lack of PM skills	60% of faculty unaware of P5, PRiSM, Agile	0.3	3	0.9
Low SDG awareness	Only 30% of students understand SDGs	0.25	3	0.75
State control	80% of budgets are state-controlled	0.1	4	0.4
3.45				
O-opportunities				
Factor	Description	Importance (0-1)	Score (1-5)	Total
PM training	Train more than 500 faculty staff in P5/PRiSM by 2027	0.35	4	1.4
SDG cam-paigns	Increase SDG awareness to 50% via campaigns	0.3	3	0.9
New partners	Collaboration with Asian Development Bank (ADB)	0.25	3	0.75
Digital projects	30% digital literacy growth by 2030	0.1	3	0.3
3.35				
T-threats				
Factor	Description	Importance (0-1)	Score (1-5)	Total
Funding shortage	$100M deficit for ESG projects	0.4	4	1.6
Resistance	60% of KazNU faculty resist changes	0.3	3	0.9
Oil-based economy	70% GDP from oil and gas hinders ESG	0.2	3	0.6
Low global ranking	Only KazNU in QS top-150	0.1	2	0.2
3.3				

The quantitative SWOT analysis presented in Table 3 identifies key factors influencing the implementation of Environmental, Social, and Governance (ESG) principles in higher education in Kazakhstan. The analysis shows that strengths are associated with the social attractiveness of universities, particularly due to the presence of 28,169 international students, which creates potential for implementing social initiatives such as inclusivity, equity, and diversity (DEI) programs at Nazarbayev University. However, weaknesses, including low environmental efficiency (a 5% energy reduction at KazNU compared to 30% at global leaders like UC Davis) and a lack of project management skills among 60% of faculty members, limit progress.

Opportunities, such as training over 500 faculty members in P5 and PRiSM methodologies by 2027, and threats, including a $100 million funding gap (EACEA, 2022), highlight the need for a strategic approach to managing ESG initiatives.

Table 4 - Explanation of SWOT analysis

Factor	Description	Explanation	Importance	Score
S-strengths				
Many international students	28,169 international students attract attention to ESG	Highlights that 28,169 students enhance universities' social role (SDG 4: quality education), attracting grants and partners for ESG	**0.4** - Highest contribution, as students are a key asset for social ESG projects. Higher than standards (0.30, indirect reputation) or partners (0.20, limited funds). Sum: 0.40 + 0.30 + 0.20 + 0.10 = 1.	5 - Maximum, as 28,169 is a significant, actively used resource with high ESG potential.
Global standards	90% of universities follow the Bologna Process	Shows that standards boost reputation, aiding resource attraction for ESG.	**0.3** - Significant but less than students (0.40), as reputation has an indirect impact via resources.	4 - High, as standards are in place but limited without active ESG initiatives.
Partner support	UN ($200,000) and KEGOC ($100,000) support projects	Indicates financial support for environmental projects (SDG 13), e.g., KazNU's energy audit.	**0.2** - Less significant than students (0.40) or standards (0.30), as $300,000 is small compared to the $100M deficit.	3 - Moderate, as support exists but is insufficient for scaling.
Successful projects	KazNU and NU have started ESG (energy audit, DEI)	Highlights initial successes in environmental (KazNU) and social (NU) ESG aspects.	**0.1** - Lowest, as projects are limited (2 of 112 universities) with modest results (5% vs. 30% globally).	3 - Moderate, as projects work but are small-scale.
W-weaknesses				
Low energy savings	Only 5% energy reduction vs. 30% globally	Shows lag in environmental ESG (SDG 13) compared to global leaders.	**0.35** - High, as environment is a key ESG pillar. Higher than skills (0.30) or awareness (0.25).	4 - High, as 5% is a significant barrier to environmental goals.
Lack of PM skills	60% of faculty unaware of P5, PRiSM, Agile	Indicates skill gaps slowing ESG project implementation.	**0.3** - High, but less than energy savings (0.35), as skills can be developed.	3 - Moderate, as training can address the issue.
Low SDG awareness	Only 30% of students understand SDGs	Shows low awareness reducing ESG engagement.	**0.25** - Moderate, less critical than energy (0.35) or skills (0.30).	3 - Moderate, as campaigns can improve awareness.
State control	80% of budgets are state-controlled	Indicates limited university autonomy for ESG.	**0.1** - Lowest, as control impacts indirectly via funding (addressed in threats).	4 - High, as autonomy limits are a significant barrier.
O-opportunities				
PM training	Train more than 500 faculty staff in P5/PRiSM by 2027	Addresses skill gaps for ESG project management.	**0.35** - High, as it resolves the 60% untrained faculty issue. Higher than campaigns (0.30).	4 - High, as training is feasible but time-intensive.
SDG campaigns	Increase SDG awareness to 50% via campaigns	Aims to boost engagement by raising awareness.	**0.3** - Moderate, less critical than training (0.35).	3 - Moderate, as campaigns are effective but limited.
New partners	Collaboration with Asian Development Bank (ADB)	Indicates potential for funding ESG projects.	**0.25** - Moderate, depends on funding volume. Less than training (0.35).	3 - Moderate, as partnerships are not yet realized.
Digital projects	30% digital literacy growth by 2030	Enhances social ESG aspects.	**0.1** - Lowest, as impact is long-term and limited.	3 - Moderate, as scaling is challenging.
T-threats				
Funding shortage	$100M deficit for ESG projects	Highlights the main financial barrier to scaling ESG.	**0.4** - Highest, as funding is critical. Higher than resistance (0.30).	4 - High, as deficit significantly hinders progress.
Resistance	60% of KazNU faculty resist changes	Shows resistance slowing ESG adoption.	**0.3** – High, but less than funding (0.40).	3 - Moderate, as resistance can be overcome with training.
Oil-based economy	70% GDP from oil and gas hinders ESG	Indicates that oil dependency lowers ESG priority.	**0.2** - Moderate, as impact is indirect via funding.	3 - Moderate, as it limits but does not block ESG.
Low global ranking	Only KazNU in QS top-150	Shows low global visibility of universities.	**0.1** - Lowest, as ranking impacts indirectly.	2 - Low, as it does not directly block ESG.

The SWOT analysis identified key factors influencing the implementation of ESG governance in higher education in Kazakhstan and their connection to the development of project management (PM) models for your dissertation. The final scores (Strengths: 4.1, Opportunities: 3.45, Threats: 3.35, Weaknesses: 3.3) indicate that strengths and opportunities outweigh weaknesses and threats, although existing barriers require attention.

The SWOT analysis provides an empirical foundation for developing project management models tailored to the Kazakhstani context. The high score for strengths particularly due to international students (importance: 0.4, score: 5) points to the potential of leveraging this resource in PM models focused on the social aspects of ESG (e.g., P5 with a focus on people). The relatively low score for weaknesses highlights the need for research aimed at overcoming the lack of PM skills and low environmental efficiency. For example, the development of hybrid models combining P5 (for stakeholder engagement) and Agile (for flexibility) could address barriers such as the 60% faculty resistance at KazNU. Opportunities such as PM training and partnerships with the Asian Development Bank offer directions for future research, including pilot projects to implement P5/PRiSM in universities. Threats particularly the funding gap necessitate exploration of mechanisms for attracting international grants (e.g., through the UN, as seen in the KazNU case).

CONCLUSION

Discussion of findings

The main limitation of this study lies in its reliance on secondary sources, which restricts insights into stakeholder perceptions. Future research should include large-scale surveys of over 2,000 students and faculty to evaluate awareness of the SDGs and adoption of project management practices, complemented by case studies. Longitudinal studies over a 5–10-year period would provide a stronger basis for assessing the framework's effectiveness, particularly in measuring outcomes such as a 20% reduction in energy use by 2030 and a 30% increase in digital literacy. Expanding the empirical base with additional case studies, for example at Kazakh-British Technical University (KBTU) and Eurasian National University (ENU), would help reflect regional diversity. Interdisciplinary approaches, integrating ESG with fields such as data science or engineering, also hold promises for fostering innovation, similar to Nanyang Technological University's smart campus initiative.

Findings suggest that Kazakhstan's higher education institutions have notable strengths in social inclusivity and governance but face gaps in environmental ESG dimensions and formalization of project management. These challenges are linked to the country's hydrocarbon dependence, a $100M funding gap, and relatively low SDG awareness among students (around 30%). Case evidence from KazNU (1,500 MWh savings and 10% ROI) and NU (+10% literacy and 12% ROI) demonstrates feasible models, yet scaling requires integrating P5, PRiSM, and agile methodologies. The proposed framework, including monitoring targets such as 50% GRI adoption by 2028 and a 20% reduction in energy consumption by 2030, adapts global best practices while addressing barriers through awareness campaigns (reaching 15,000 people), PPPs ($5M).

Overall, this study contributes to ongoing higher education reforms in Kazakhstan, highlighting the country's potential to emerge as a regional leader in sustainability and policy innovation in Central Asia. Future research directions include interdisciplinary surveys with large samples (2,000+ respondents), long-term studies, and further case studies of leading universities such as KBTU and ENU, thereby strengthening the empirical foundation.

REFERENCES

1. Transforming our world: The 2030 Agenda for Sustainable Development [Электронный ресурс] // United Nations [web-сайт]. – 2015. – URL: https://sdgs.un.org/2030agenda (дата обращения: 14.07.2025)

2. The ESG premium: New perspectives on value and performance [Электронный ресурс] // McKinsey [web-сайт]. – 2019. – URL: https://www.mckinsey.com/business-functions/sustainability/our-insights/the-esg-premium-new-perspectives-on-value-and-performance (дата обращения: 16.07.2025)

3. ESG investments: Global trends and projections [Электронный ресурс] // Bloomberg [web-сайт]. – 2023. – URL: https://www.bloomberg.com/professional/blog/esg-investing-global-trends-2023/ (дата обращения: 10.08.2025)

4. Leal Filho W., и др. Sustainable development goals and higher education: Leaving no one behind // Sustainability. – 2019. – 11(23). – P. 6641. –DOI: 10.3390/su11236641.

5. Integrating ESG principles into project management [Электронный ресурс] // ProjectManagement.ie [web-сайт]. – 2024. – URL: https://projectmanagement.ie/blog/integrating-esg-principles-into-project-management/ (дата обращения: 10.08.2025)

6. Сегодня в Казахстане функционирует 122 высших учебных заведений [Электронный ресурс] // Министерство науки и высшего образования Республики Казахстан [web-сайт]. – 2025. – URL: https://www.gov.kz/memleket/entities/sci/activities/31809 (дата обращения: 15.08.2025)

7. Overview of the higher education system: Kazakhstan. European Education and Culture Executive Agency [Электронный ресурс] // EACEA [web-сайт]. – 2022. – URL: https://www.eacea.ec.europa.eu/national-policies/eurydice/content/overview-higher-education-system-kazakhstan_en (дата обращения: 15.08.2025)

8. Sustainable Development Goals in Kazakhstan [Электронный ресурс] // United Nations Kazakhstan [web-сайт]. – 2023. – URL: https://kazakhstan.un.org/en/sdgs (дата обращения: 16.08.2025)

9. Alenezi A. S., & Alanazi A. A. Integrating environmental, social, and governance values into higher education curriculum // International Journal of Evaluation and Research in Education. – 2024. – 13(3). – P. 1498–1506. – DOI: 10.11591/ijere.v13i5.29440.

10. Xia J. A Systematic Review: How Does Organisational Learning Enable ESG Performance (from 2001 to 2021)? // Sustainability. – 2022. – 14(24). – P. 1696. – DOI:10.3390/su142416962.

11. López-Alcarria A., Olivares-Vicente A., & Poza-Vilches F. A Systematic Review of the Use of Agile Methodologies in Education to Foster Sustainability Competencies // Sustainability. – 2019. – 11(10). – P. 2915. – DOI: 10.3390/su11102915.

12. Lundy K., Reynolds S., & Auton-Smith S. ESG in higher education: From strategy to execution [Электронный ресурс] // EY [web-сайт]. – 2022. – URL: https://www.ey.com/en_us/insights/education/esg-in-higher-education-a-focus-on-the-environment (дата обращения: 12.08.2025)

13. Sammalisto, K., & Lindhqvist, T. Integration of Sustainability in Higher Education: A Study with International Perspectives // Innovative Higher Education. – 2008. – 32(4). – C. 221-233. DOI:10.1007/s10755-007-9052-x.

14. Ben-Redouane B. Integrating ESG Principles into Project Management [Электронный ресурс] // ProjectManagement.ie [web-сайт]. – 2024. – URL: https://projectmanagement.ie/blog/integrating-esg-principles-into-project-management/ (дата обращения: 15.07.2025)

15. Yin, R. K. Case Study Research and Applications: Design and Methods (6th ed.). SAGE Publications. – 2018. – P. 115.

16. ESG in higher education: A focus on the environment [Электронный ресурс] // EY [web-сайт]. – 2022. – URL: https://www.ey.com/en_us/insights/education/esg-in-higher-education-a-focus-on-the-environment (дата обращения: 16.08.2025)

17. What is responsible investment? [Электронный ресурс] // Principles for Responsible Investment (PRI) [web-сайт]. – 2023. – URL: https://www.unpri.org/pri/what-is-responsible-investment (дата обращения: 12.07.2025)

18. Education for sustainable development in Asia and Africa [Электронный ресурс] // UNESCO [web-сайт]. – 2022. – URL: https://unesdoc.unesco.org/ark:/48223/pf0000380923 (дата обращения: 12.07.2025)

19. ESG in higher education overview [Электронный ресурс] // Veritrove [web-сайт]. – 2023. – URL: https://veritrove.com/esg-in-higher-education/ (дата обращения: 12.07.2025)

20. Education and innovation in Latin America. Inter-American Development Bank [Электронный ресурс] // IDB [web-сайт]. – 2023. – URL: https://www.iadb.org/en/topics/education (дата обращения: 16.08.2025)

21. KazNU annual report: Sustainability and initiatives [Электронный ресурс] // KazNU [web-сайт]. – 2024. – URL: https://bkmisd.farabi.university/wp-content/uploads/2025/02/Al-Farabi-KazNU-Annual-report-2024.pdf (дата обращения: 12.07.2025)

22. NAZARBAYEV UNIVERSITY [Электронный ресурс] // QS Top Universities [web-сайт]. – 2025. – URL: https://www.topuniversities.com/universities/nazarbayev-university (дата обращения: 12.07.2025)

23. NAZARBAYEV UNIVERSITY [Электронный ресурс] // IIE [web-сайт]. – 2024. – URL: https://www.iie.org/wp-content/uploads/2024/05/Nazarbayev-University.pdf (дата обращения: 12.07.2025)

24. Thematic Conferences Convene Multi-sector Stakeholders to Address SDG Implementation [Электронный ресурс] // UN Sustainable Development Solutions Network [web-сайт]. – 2024. – URL: https://www.unsdsn.org/our-networks/kazakhstan/ (дата обращения: 12.07.2025)

25. Amirova A., Nurumov K., Kasa R., Akhmetzhanova A., & Kuzekova A. The impact of the digital divide on synchronous online teaching in Kazakhstan during COVID-19 school closures [Электронный ресурс] // Frontiers [web-сайт]. – 2022. – DOI: 10.3389/feduc.2022.1083651. URL: https://www.frontiersin.org/journals/education/articles/10.3389/feduc.2022.1083651/full (дата обращения: 16.08.2025)

26. Nazarbayev University Crisis: Shigeo Katsu Demands Audit Transparency [Электронный ресурс] // PR newswire [web-сайт]. – 2024. – URL: https://www.prnewswire.com/news-releases/nazarbayev-university-crisis-shigeo-katsu-demands-audit-transparency-302338886.html (дата обращения: 16.08.2025)

REFERENCES

1. United Nations. (2015). Transforming our world: The 2030 Agenda for Sustainable Development. Retrieved July 14, 2025 from URL: https://sdgs.un.org/2030agenda.36u.

2. McKinsey. (2019). The ESG premium: New perspectives on value and performance. Retrieved July 16, 2025, from URL: https://www.mckinsey.com/business-functions/sustainability/our-insights/the-esg-premium-new-perspectives-on-value-and-performance.

3. Bloomberg. (2023). ESG investments: Global trends and projections. Retrieved August 10, 2025, from URL: https https://www.bloomberg.com/professional/blog/esg-investing-global-trends-2023/.

4. Leal Filho, W., et al. (2019). Sustainable development goals and higher education: Leaving no one behind. *Sustainability*, 11(23), p. 6641. DOI: 10.3390/su11236641.

5. ProjectManagement.ie. (2024). Integrating ESG principles into project management. Retrieved August 10, 2025, from URL: https://projectmanagement.ie/blog/integrating-esg-principles-into-project-management/.

6. Ministry of Science and Higher Education of the Republic of Kazakhstan. (2025). Retrieved August 15, 2025, from URL: https://www.gov.kz/memleket/entities/sci/activities/31809.

7. EACEA. (2022). Overview of the higher education system: Kazakhstan. European Education and Culture Executive Agency. Retrieved August 15, 2025, from URL: https://www.eacea.ec.europa.eu/national-policies/eurydice/content/overview-higher-education-system-kazakhstan_en.

8. United Nations Kazakhstan. (2023). Sustainable Development Goals in Kazakhstan. Retrieved August 16, 2025, from URL: https://kazakhstan.un.org/en/sdgs.

9. Alenezi, A. S., & Alanazi, A. A. (2024). Integrating environmental, social, and governance values into higher education curriculum. *International Journal of Evaluation and Research in Education,* 13(3), pp. 1498–1506. DOI: 10.11591/ijere.v13i5.29440.

10. Xia, J. (2022). A Systematic Review: How Does Organisational Learning Enable ESG Performance (from 2001 to 2021)? *Sustainability*, 14(24), p. 1696. DOI:10.3390/su142416962.

11. López-Alcarria, A., Olivares-Vicente, A., & Poza-Vilches, F. (2019). A Systematic Review of the Use of Agile Methodologies in Education to Foster Sustainability Competencies. *Sustainability*, 11(10), p. 2915. DOI:10.3390/su11102915.

12. Lundy, K., Reynolds, S., & Auton-Smith, S. (2022) ESG in higher education: From strategy to execution. EY-Parthenon. Retrieved August 12, 2025, from URL: https://www.ey.com/en_us/insights/education/esg-in-higher-education-a-focus-on-the-environment.

13. Sammalisto, K., & Lindhqvist, T. (2008). Integration of Sustainability in Higher Education: A Study with International Perspectives. *Innovative Higher Education*, 32(4), pp. 221-233. DOI: 10.1007/s10755-007-9052-x.

14. Ben-Redouane, B. (2024) Integrating ESG Principles into Project Management. Retrieved July 15, 2025, from URL: https://projectmanagement.ie/blog/integrating-esg-principles-into-project-management/.

15. Yin, R. K. (2018). Case Study Research and Applications: *Design and Methods* (6th ed.). SAGE Publications, p.115.

16. EY. (2022). ESG in higher education: A focus on the environment. Retrieved August 16, 2025, from URL: https://www.ey.com/en_us/insights/education/esg-in-higher-education-a-focus-on-the-environment.

17. Principles for Responsible Investment (PRI). (2023). What is responsible investment? Retrieved July 12, 2025, from URL: https://www.unpri.org/pri/what-is-responsible-investment.

18. UNESCO. (2022). Education for sustainable development in Asia and Africa. Retrieved July 12, 2025, from URL: https://unesdoc.unesco.org/ark:/48223/pf0000380923.

19. Veritrove. (2023). ESG in higher education overview. Retrieved July 12, 2025, from URL: https://veritrove.com/esg-in-higher-education/.

20. IDB. (2023). Education and innovation in Latin America. Inter-American Development Bank. Retrieved August 16, 2025, from URL: https://www.iadb.org/en/topics/education.

21. KazNU. (2024). KazNU annual report: Sustainability and initiatives. Retrieved July 12, 2025, from URL: https://bkmisd.farabi.university/wp-content/uploads/2025/02/Al-Farabi-KazNU-Annual-report-2024.pdf.

22. QS Top Universities. (2025). NAZARBAYEV UNIVERSITY. Retrieved July 12, 2025, from URL: https://www.topuniversities.com/universities/nazarbayev-university.

23. IIE. (2024). NAZARBAYEV UNIVERSITY. Retrieved July 12, 2025, from URL: https://www.iie.org/wp-content/uploads/2024/05/Nazarbayev-University.pdf.

24. UN Sustainable Development Solutions Network. (2024). Thematic Conferences Convene Multi-sector Stakeholders to Address SDG Implementation. Retrieved July 12, 2025, from URL: https://www.unsdsn.org/our-networks/kazakhstan/.

25. Amirova, A., Nurumov, K., Kasa, R., Akhmetzhanova, A., & Kuzekova, A. (2022). The impact of the digital divide on synchronous online teaching in Kazakhstan during COVID-19 school closures. *Frontiers in Education*, 7. DOI: 10.3389/feduc.2022.1083651. Retrieved August 16, 2025, from URL: https://www.frontiersin.org/journals/education/articles/10.3389/feduc.2022.1083651/full.

26. PR newswire. (2024) Nazarbayev University Crisis: Shigeo Katsu Demands Audit Transparency. Retrieved August 16, 2025, from URL: https://www.prnewswire.com/news-releases/nazarbayev-university-crisis-shigeo-katsu-demands-audit-transparency-302338886.html.

ЖОҒАРЫ БІЛІМДЕ ESG ҚАҒИДАТТАРЫН ТАЛДАУ ЖӘНЕ ЕНГІЗУ: ҚАЗАҚСТАНДА ЖОБАЛЫҚ МЕНЕДЖМЕНТ ПЕН ТҰРАҚТЫ ДАМУ ТӘЖІРИБЕЛЕРІН ИНТЕГРАЦИЯЛАУ

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АҢДАТПА

Зерттеу мақсаты. Қазақстандағы жоғары білім беру жүйесіне Environmental, Social және Governance (ESG) қағидаттарын жобалық менеджмент (PM) тұрғысынан енгізуді талдау және тұрақты даму бастамаларын институционалдық реформалармен үйлестіруге арналған үлгі ұсыну.

Әдіснамасы. Зерттеу сапалық тәсілге негізделген, ол екінші деректерді талдау мен қазақстандық жоғары оқу орындарының SWOT-талдауын қамтиды. Назарбаев Университеті (НУ) мен әл-Фараби атындағы Қазақ ұлттық университетінің (ҚазҰУ) салыстырмалы кейс-зерттеулері халықаралық үздік тәжірибелер негізінде қарастырылды.

Зерттеудің бірегейлігі / құндылығы. Бұл жұмыс Қазақстандағы жоғары білім беру секторында ESG қағидаттарын енгізудің алғашқы жүйелі бағаларының бірі. Ол тұрақты даму саласындағы басқаруды жобалық менеджменттің (P5, PRiSM, Agile) үлгілерімен байланыстырады. Зерттеу Орталық Азиядағы ESG дискурсына үлес қосып, қаржыландырудың шектеулілігі, орталықтандырылған басқару және көмірсутектерге тәуелділік жағдайына бейімделген PM-нің гибридтік моделін ұсынады.

Зерттеу нәтижелері. Зерттеу нәтижелері қазақстандық университеттердің әлеуметтік инклюзивтілік пен басқару саласында айтарлықтай әлеуетке ие екенін, бірақ экологиялық тұрақтылық пен жобалық менеджментті институционализациялау тұрғысынан әлсіздіктерге тап болатынын көрсетті. SWOT-талдау мықты жақтар (интернационализация, әлеуметтік реформалар) мен мүмкіндіктер (оқытушыларды даярлау, халықаралық әріптестік) қаржыландыру тапшылығы мен басқару шектеулері сияқты қауіптерден басым түсе алатынын көрсетеді, егер ESG-PM гибридтік модельдері қолданылса. Эмпирикалық деректер нақты нәтижелерді көрсетеді: энергия үнемдеу (ҚазҰУ) және цифрлық сауаттылықтың 10%-ға артуы (НУ). Масштабтау үшін жүйелі мониторинг пен пәнаралық ынтымақтастық қажет, бұл Қазақстанды тұрақты жоғары білім беру саласында аймақтық көшбасшы ретінде орнықтыруға мүмкіндік береді.

Түйін сөздер: жобалық менеджмент, жоғары білім, Экологиялық, Әлеуметтік және Басқарушылық (ӘӘБ) қағидаттары, Қазақстаның ЖОО.

АНАЛИЗ И ВНЕДРЕНИЕ ПРИНЦИПОВ ESG В ВЫСШЕМ ОБРАЗОВАНИИ: ИНТЕГРАЦИЯ ПРОЕКТНОГО МЕНЕДЖМЕНТА И ПРАКТИК УСТОЙЧИВОГО РАЗВИТИЯ В КАЗАХСТАНЕ

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АННОТАЦИЯ

Цель исследования. Цель заключается в анализе интеграции принципов Environmental, Social и Governance (ESG) в систему высшего образования Казахстана через призму проектного менеджмента (PM), а также в разработке рамочной модели для согласования инициатив в области устойчивого развития с институциональными реформами.

Методология. В исследовании применён качественный дизайн, основанный на анализе вторичных данных, а также SWOT-анализ казахстанских высших учебных заведений. Проведены сравнительные кейс-исследования Назарбаев Университета (НУ) и Казахского национального университета имени аль-Фараби (КазНУ) с учётом мировых практик.

Оригинальность/ценность исследования. Работа представляет собой одну из первых систематических оценок внедрения ESG в высшее образование Казахстана, связывая управление устойчивым развитием с моделями проектного менеджмента (P5, PRiSM, Agile). Она вносит вклад в формирование дискурса об ESG в Центральной Азии, предлагая гибридную модель PM, адаптированную к региональным условиям ограниченного финансирования, централизованного управления и зависимости от углеводородов.

Результаты исследования. Результаты показывают, что казахстанские университеты обладают значительным потенциалом в области социальной инклюзивности и управления, но сталкиваются со слабыми сторонами в экологической устойчивости и институционализации проектного менеджмента. SWOT-анализ указывает, что сильные стороны (интернационализация, социальные реформы) и возможности (подготовка преподавателей, международное сотрудничество) могут перевесить угрозы (дефицит финансирования, ограничения в управлении), если использовать гибридные ESG-PM модели. Эмпирические данные демонстрируют конкретные результаты, такие как энергосбережение (КазНУ) и рост цифровой грамотности на 10% (НУ). Масштабирование требует системного мониторинга и междисциплинарного взаимодействия, чтобы позиционировать Казахстан как регионального лидера в области устойчивого высшего образования.

Ключевые слова: проектное управление, высшее образование, Экологические, Социальные и Управленческие (ЭСУ) принципы, казахстанские вузы

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