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| 장소 | 국립목포대학교 70주년 기념관

| 주관 |

한국패션기술학회(KJFT), 국립목포대학교 전략경영연구소

| 공동주최 |

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국립목포대학교 전략경영연구소

17:30-18:00 단체사진 및 휴식

18:00-19:00 석식(초청가수 감성지대 공연)

2025년 1월 15일(수)

International Forum on Fashion & Technology Convergence (FTC2025)

2일차 행사일정

[장소: 국립목포대학교 70주년 기념관]

07:00-08:00 기상 및 휴식

08:00-09:30 조식(목포대학교 학생식당)

제2부 패션, 여성, 지속가능성 분야

◎ 제1세션: 교육, 여성, 환경 분야: 09:30-12:00

좌장: Anel A. KIREYEVA(PhD in Economics, Associate Professor/
University of International Business named after
K.Sagadiyev, Almaty, Kazakhstan)

논문명1-14: Problems and prospects of modernization of the quality of the higher education system in Kazakhstan

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논문명1-15: Modernization of higher education in Kazakhstan through environmental, social, and governance principles

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Modernization of higher education in Kazakhstan through environmental, social, and governance principles

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Abstract

This study examines the integration of Environmental, Social, and Governance (ESG) principles into Kazakhstan's higher education system as a pathway to align with international standards and promote sustainable development. The research aims to analyze the feasibility, strategies, and impact of embedding ESG principles in universities, focusing on enhancing institutional resilience, advancing sustainability, and improving governance practices. A qualitative content analysis method was employed, with data sourced from institutional reports, government policies, academic literature, and semi-structured interviews with university administrators, policymakers, and sustainability experts. The findings reveal progress in some institutions, such as Al-Farabi Kazakh National University and Almaty Management University, which have incorporated ESG principles into their curricula and operations. However, challenges remain, including limited awareness of ESG principles, inadequate faculty training, and the absence of standardized ESG reporting frameworks. Despite these obstacles, opportunities exist in policy development, curriculum reform, professional development programs, and international collaboration to foster ESG integration. This study concludes that embedding ESG principles has the potential to transform Kazakhstani universities into global leaders in sustainability, strengthening their competitiveness and contributing to national development goals. Actionable recommendations are provided for policymakers and educational leaders.

Keywords: Environment, Higher Education, Educational Policy, Sustainability, University, Governance in Education, Kazakhstan

JEL Classification Code: I23; Q56; Q01

1. Introduction

The environmental, social, and governance (further - ESG) factors have become the talk of the town in most higher learning institutions globally- an embodiment of burgeoning awareness that higher education indeed holds a critical position in sustainable development. Higher education is thus well positioned to underpin the development of environmentally responsible, socially equitable, and accountably governed practices, especially concerning how ESG factors will be integrated into all academic courses, research work, and institutional operations. In this light, it is on this basis that higher learning institutions can be regarded as not only centers of knowledge but also agents of change, which would help shape future leaders to respond to the multi-faceted concerns wrought by sustainable development in the 21st century. From this perspective, Kazakhstan, in its transition, has given considerable attention to reforming higher education to meet both international standards and national development goals. While it has indeed made impressive progress since independence both

in increasing access to schooling and improving institutional quality, in terms of higher education, the integration of ESG factors is still in its infancy, characterized by fragmented approaches and disparate performances among single institutions. Setting up frameworks like that of the United Nations on the SDGs was the beginning of the steps toward sustainability; however, there is still partial ignorance of its existence, inadequate policy support, and inequity in implementation.

The following research investigates the feasibility, mechanisms, and possible impact of integrating ESG principles into Kazakhstani higher education. The given study intends to lay the foundation for gradual integration at the academic, operational, and governance levels by analyzing current practices, identifying challenges, and developing practical recommendations. This, in turn, has underscored the need to address such significant challenges as the lack of unified frameworks for ESG reporting, faculty training in sustainability issues, and a low level of awareness about ESG principles on the part of students. This study was set within a national context because of Kazakhstan's unique socio-economic and institutional characteristics. It draws on international best practices to assess the country's progress and identifies how enhancement in the country's global competitiveness can be enhanced. In applying ESG principles, Kazakh universities are well-positioned to sustainably drive further growth, align their educational and governance structures with their peers, and help tackle the most pressing domestic needs. This is important research that would allow one to illustrate to policymakers, education administration, and university leadership the strategic approaches toward the successful integration of ESG principles. Indeed, promoting a culture of sustainability in higher education may allow Kazakhstan to position its universities as exemplary cases of institutional resilience and innovation supportive of the nation's development agenda and further strengthen its commitment to sustainable development at the international level.

2. Literature review

Incorporating Environmental, Social, and Governance (ESG) principles within higher education institutions has grown increasingly important globally, driving sustainable development and strengthening institutional resilience. Kazakhstan's incorporation corresponds with national strategic goals to modernize the educational framework and conform to international benchmarks. The incorporation of ESG principles in universities across Kazakhstan is crucial for nurturing a generation capable of tackling intricate sustainability issues and aiding in the nation's developmental objectives. Historically, the landscape of higher education in Kazakhstan has experienced considerable transformation following the achievement of independence. Ahn et al. (2018) investigated the development of higher education in Kazakhstan from the Soviet period to contemporary times, emphasizing initiatives aimed at shifting from a centrally controlled system to one that facilitates a market-oriented economy and global integration. Notwithstanding these reforms, obstacles remain in synchronizing educational methodologies with international sustainability trends.

Several Kazakhstani universities have initiated efforts to embed ESG principles within their curricula and institutional practices. Al-Farabi Kazakh National University (KazNU) exemplifies this integration through its Master of Development Practice (MDP) program, which emphasizes education for sustainable development (ESD) and leverages information and communication technologies (ICT) to enhance learning outcomes (Abazov, 2020). The program's curriculum incorporates the Sustainable Development Goals (SDGs) established by the United Nations, thereby equipping students to address worldwide issues. The involvement of KazNU in global networks like the United Nations Academic Impact (UNAI) has additionally advanced the integration of ESG by enhancing internationalization and nurturing global collaborations (Abazov, 2021a). Participation in UNAI has favorably impacted the university's organizational culture, fostering greater involvement in sustainability-related activities and enhancing the administration of international projects (Abazov, 2021b). This is consistent with broader initiatives aimed at reconfiguring global citizenship education in Kazakhstan by merging global competencies with local educational methodologies.

As a result, Almaty Management University AlmaU integrated ESG principles into its practice and adopted PRME issues by the United Nations (Kaumenova, 2020). Commitment by any

organization shows it is committed to integrating social responsibility and sustainability within university operations and curriculum. As a matter of fact, AlmaU has given several reasons to raise ESG awareness among students and staff for the growth of a socially responsible academic community. Despite these efforts, integrating ESG factors into the Kazakhstani higher education system remains problematic. Among these are serious shortcomings in teachers' and students awareness and understanding of sustainable development principles (Yelubayeva et al., 2023). Moreover, the absence of advanced training for educators limits their ability to teach ESG themes effectively. Hence, gaps in the curricula are observed (Zakhlebny et al., 2020). Moreover, most students learn about the SDGs from sources other than formal education, such as social media; therefore, universities should be more proactive in integrating ESG and SDG into academic programs. As Bespalyy et al. (2024) establish, there is a lack of standardized guidelines and policies on ESG integration; this results in the inconsistent implementation of sustainability initiatives.

Azretbergenova and Sarsenbayeva (2023) examine the evolution of ESG transparency within Kazakhstan's financial market, highlighting that inadequate regulatory structures hinder transparency and accountability, which are vital for successfully integrating ESG principles. Furthermore, the absence of obligatory ESG reporting obstructs attempts to assess and enhance ESG performance across various institutions. In response to these issues, many recommendations are proposed. Enhancing policy frameworks is of paramount importance; the government ought to formulate and implement policies that mandate ESG reporting and promote sustainability initiatives within academic institutions. These policies would improve transparency and accountability, motivating institutions to embrace ESG principles rigorously. Improving the curriculum constitutes yet another vital strategy. Higher institutions of learning should, therefore, from this end ensure that ESG and SDG are integrated into the curriculum of studies at all levels to full arm the student with information related to sustainability. Alenezi and Alanazi (2024) present a proposed framework for integrating ESG values into higher education curricula and suggest that such values should form part of all levels of study. Also, professional development programs for educators will establish new capacities in terms of ESG-related content, according to Zakhlebny et al. (2020). Offering the tools and knowledge to educators will give a university an assurance that the ESG principles will be appropriately delivered to the students, which will enhance the quality of education. International collaboration and participation in global networks may facilitate ESG integration by applying best practices and resources. Increasing institutions' active involvement within international networks and partnerships is necessary to enhance their international competitiveness and spread knowledge. Some researchers have indicated that institutional participation in the state's higher education internationalization process is highly required, and it would be possible to integrate ESG principles better by enhancing communication and partnership between the government the higher educational institution (Abazov, 2021a; Li & Ashirbekov, 2014).

Encouragement of environmental volunteering and extracurricular activities contributes to students' participation in sustainability projects and, thereby, develops responsibility and participatory attitudes among students. A well-planned education program might work on developing environmental stewardship and sustainable lifestyles for students and staff, which would, therefore, pave the way for changes in the whole higher education system. Moreover, standardized tools and indicators of ESG reporting can assure transparency and accountability. Establishing explicit metrics enables institutions to monitor their progress, recognize areas needing enhancement, and illustrate their commitment to sustainability to their stakeholders. The repercussions of incorporating ESG principles within higher education institutions reach beyond the academic sphere, substantially bolstering institutional resilience and aiding in achieving Kazakhstan's sustainable development objectives. By implementing ESG frameworks, universities can more effectively align with global standards, secure international partnerships, and enhance their competitive edge (Kuur et al., 2024). Incorporating ESG principles equips students to tackle intricate environmental and social issues, cultivating a proficient workforce and promoting the nation's sustainability agenda. Empirical data corroborate the advantages of ESG integration. Ahn et al. (2018) investigated the evolution of higher education in Kazakhstan and proposed that integrating ESG principles can further modernize the

educational framework. The analysis suggests that integrating ESG into Kazakhstan's university reform is key for successfully transitioning to a market-oriented economy and joining the world's top ten economies. Kuanova et al. (2024) conducted an analytical review of the development of sustainable finance in Kazakhstan and provided a perspective on ESG implementation. They also claim that if higher education successfully incorporates ESG principles, sustainable finance will be achieved because students will graduate with ESG practices. Concerning the provided topic, Varavin et al. (2022) discussed the development of a greening investment in Kazakhstan. They acknowledged that education is one factor in implementing foreign experience and enhancing ESG practices.

The internationalization of higher education may serve as an enabling factor for ESG integration. Another significant issue is the regional imbalance in higher education. Nurgaliyeva and Nygymbetov (2023) analyze several statuses of higher education across different regions in Kazakhstan and comment that equal opportunities for quality education might ensure wider ESG objectives, such as social equity and economic development. Strategies related to management excellence might also ensure ESG concerns. The present state is that while several developments have taken place regarding integrating ESG principles into Kazakhstan higher education institutions, significant challenges are still present. Overcoming these various challenges requires concerted efforts from policymakers, education leaders, teachers, and learners alike. Higher education institutions in Kazakhstan will be better placed to become essential contributors in realizing the country's sustainable development goals through an approach of policy development, enrichment of curricula, teacher training, international cooperation, student involvement, and the establishment of transparency and accountability frameworks. These, in turn, will serve the national goals and make Kazakhstani universities active players in the global pursuit of sustainability.

3. Research Methods

This paper, therefore, adopts a qualitative research design to study the integration of aspects of ESG concepts in higher education institutions within Kazakhstan. The content analysis method is used as the core methodological tool to scrutinize the documents, policies, and programs systematically. The present study underpins an all-around understanding of ESG implementation, identifying the challenges and formulating pragmatic ways of disseminating sustainability concerns within HEIs.

The data was collected methodically from the following sources: government databases, institutional websites, academic journals, and international sustainability networks. Data collection involved the analysis of policy documents, strategic plans, sustainability reports, course curricula, and statements issued by an institution that contains the terms ESG, SDGs, or broader terms about sustainability in higher education. The approach ensures that, through a purposive sampling methodology, the resultant data contains diversity in the institutional range, from large public and private universities and comprehensive research institutions to smaller regional colleges. That would ensure findings representative of the various practices and challenges within the Kazakhstani higher education system.

Data analysis will be purely manual and very structured, while data is organized into thematic categories, such as environmental sustainability efforts, social responsibility initiatives, and governance structures. Documents will be analyzed line per line to extract, categorize, and organize into thematic matrices to help observe patterns, trends, and relations of various elements of ESG integration. The structured theme is informed by settled approaches pertinent to sustainability research; hence, consistency and reliability are ensured. QCA will, therefore, inform the investigation into divergent and convergent paths that the institutions have taken in order to achieve exemplary practices and areas of improvement. The outcomes will, after that, be related to the greater perspective of national policy frameworks and global standards on sustainability.

In this regard, such robustness is ensured through triangulation of validation techniques against peer review. Triangulation was attained by comparing the findings derived from document analysis against insights received from semi-structured interviews with university officials, policymakers, and

sustainability experts. This helps contextualize and validate the inferences derived from the documents. Again, the methodological soundness and reliability of such research are further enhanced through the independent peer review process concerning the integration of ESG and higher education.

4. Results

The progress of ESG incorporation into Kazakh higher education institutions is relevant, though not without substantial obstacles. Prominent institutions in this respect include Al-Farabi Kazakh National University and Almaty Management University, which are leading the way in implementing sustainability into curricula and organizational structures. Another exemplary case of the response to the UN SDGs is the Master of Development Practice at KazNU, which uses innovative approaches, such as ICT, to further education for sustainable development. The adoption of PRME at AlmaU implies that the institution committed itself to inculcating social responsibility and sustainability into the practices of students and staff. Meanwhile, despite all this effort, the integration of ESG into Kazakhstan's higher education landscape is still very uneven; there is no standard frame yet.

The first big problem is a very low level of awareness and lack of understanding among students and faculty of the principles underlying ESG. Students are somewhat aware of the issues regarding sustainability from social networks, but formal education about these issues is poorly incorporated into the programs offered. There are also some obstacles to effective teaching of ESG-related content among faculty due to a lack of proper training or resources. In addition, the absence of binding ESG reporting and policies accentuates these further, with inconsistent implementation at an institutional level. With low finances and resources, universities cannot upscale their efforts related to sustainability; just a small portion of government budget allocation directly supports program programs aligned with SDGs.

Despite such bottlenecks, huge opportunities for ESG integration have also opened a way in Kazakh higher education institutions; it creates insignificantly the need for developing more powerful national policies that connect ESG reporting and lay down accountability for the attainment of sustainability practice consistently. Integrating ESG principles into university curricula, regardless of the discipline, would finally lead to the comprehensive development of students' perceptions concerning sustainability challenges. In contrast, professional development for educators should prepare them to become ESG professors. All this opens great opportunities for international collaboration and networking by sharing best practices and resources that enhance the global competitiveness of Kazakhstani universities. Promoting engagement in environmental volunteering and extracurricular activities centered on sustainability may enhance a culture of accountability and proactive involvement among students.

Developing standardized tools and indicators that will enable ESG performance measurement is also important. Institutional progress can be tracked by specific metrics that will contribute to gap identification, prioritizing areas, and showing the university's commitment to the stakeholders. Such wide integration of ESG principles can potentially transform higher educational institutions in Kazakhstan by making them more resilient and aligned with international standards. By incorporating this practice, graduates can solve complex emerging environmental and social problems, placing their universities at the forefront of contributing to achieving the nation's sustainable development goals. Identifying systemic barriers and capitalizing on existing opportunities allow Kazakh higher education institutions to emerge into the leading ranks in the international pursuit of sustainability and prepare a cadre of professionals to further the country's development. Figure 1 presents the engagement of higher education institutions in several countries and/or regions through the STARS.

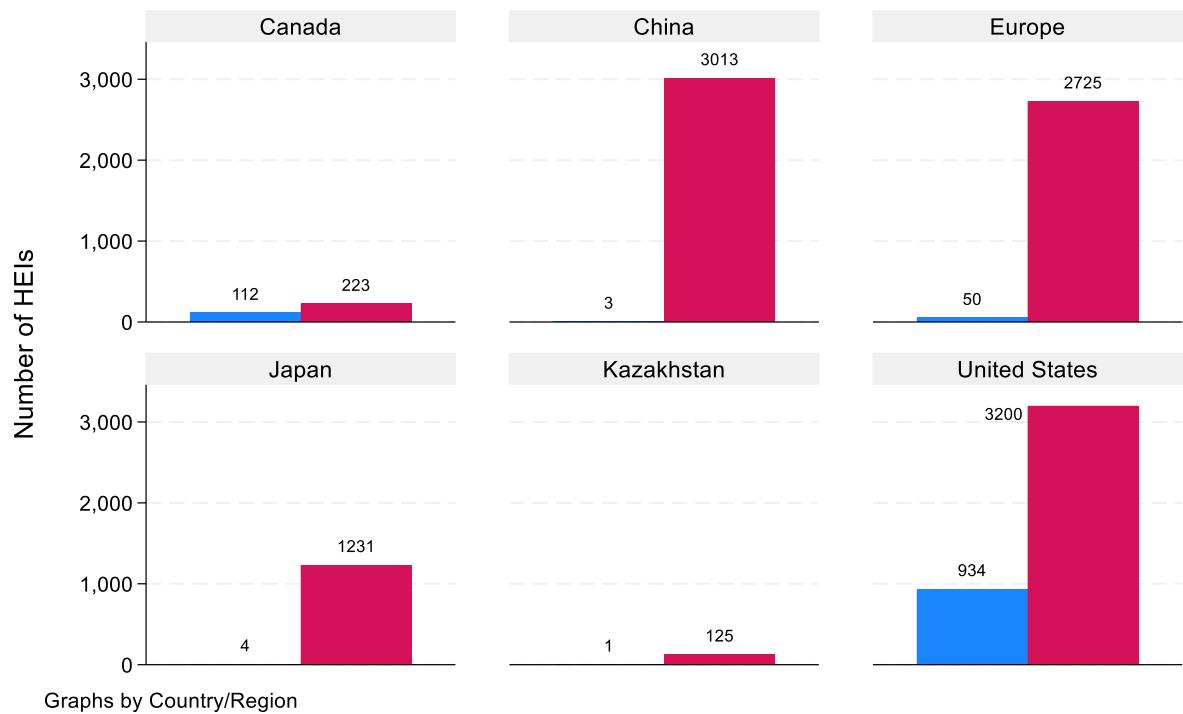


Figure 1. Higher Education Institutions' Engagement in STARS Sustainability Reporting in 2024

The STARS is a detailed self-reporting tool that colleges and universities use to measure their sustainability performance. In computing the participation rate, it was considered as a ratio of the number of HEIs signed up through STARS to the total number of HEIs in a particular country or region. The data presents a wide variation in engagement in sustainability reporting. Canada has the highest level of participation, standing at 50.22%, with 112 out of 223 HEIs registered on STARS. The United States follows this with a participation rate of 29.19%, where 934 out of 3,200 HEIs are registered. This compares to a participation rate of 1.83% in Europe, with 50 out of 2,725 HEIs registered. Japan and China have much lower participation rates, at 0.32% and 0.10%, respectively. Conversely, Kazakhstan shows a participation rate of 0.80%, with 1 of 125 higher education institutions registering participation, namely Nazarbayev University. This could suggest that North American institutions are more active in implementing sustainability assessment tools like STARS, meaning more significant institutional commitment to sustainability activities. Although relatively lower participation rates in Europe, Japan, China, and Kazakhstan may indicate a lack of awareness or alternative sustainability assessment tools being more prevalent in these regions. Specific factors that may explain the differing state of reporting about sustainability by HEIs in various world regions will be further identified through research.

Table 1 presents comprehensive details of how the application of the ESG principle flows across HEIs within Kazakhstan. It also elaborates on key metrics such as the number of institutions, student enrollment, qualification of faculty, and specific measures undertaken with respect to embedding the ESG principle within both curricular and operational systems. Evidence is given on how attempts to meet the imperatives of sustainable development have gone, amidst highlighting various challenges experienced in the course of integrating these. Data sources include material obtained from the Bureau of National Statistics of Kazakhstan, institutional documents, and academic evidence.

Table 1: Key Facts and Activities Related to ESG Integration in Kazakhstan's Higher Education Institutions

Aspect	Details
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Number of HEIs	As of the 2023-2024 academic year, Kazakhstan has 112 higher education institutions, including 77 universities, 14 academies, and 10 institutes.
ESG-Focused Programs	The Kazakh-German University launched the country's first comprehensive ESG training course, "ESG Practice in Kazakhstan: Training Course for Sustainable Business".
Student Enrollment	In the 2023-2024 academic year, 71.7% of students were admitted based on general secondary education, 19.7% from technical and vocational education, and 8.7% from higher education backgrounds.
Faculty Qualifications	Among 37,391 faculty members, 40.1% hold a master's degree, 28.1% have a PhD, and 27.8% possess a candidate of sciences degree.
Sustainable Finance Initiatives	The Development Bank of Kazakhstan integrates ESG factors into its financial support decisions and daily operations, promoting sustainable finance within the country.
Student Awareness of SDGs	Studies indicate that students in Central Asian universities, including Kazakhstan, generally have limited knowledge about the Sustainable Development Goals (SDGs) and often acquire information through informal channels.
International Collaborations	Nazarbayev University, as the National SDSN Country Office for Kazakhstan, collaborates with 25 Kazakhstani universities and research institutions to develop practical solutions and conduct research on achieving the UN SDGs.
ESG Skills Development	There is a growing emphasis on developing ESG-related skills among university graduates to meet the increasing demand for professionals knowledgeable in sustainable development.

Recent developments regarding integrating ESG into HEIs in Kazakhstan have indicated places of progress but also some remaining challenges. One such study focused on national and institutional policies for evidence of how far ESD principles were being integrated and discovered that ESD was enacted in a piece-by-piece fashion. For example, these elements of citizenship, lifelong learning, healthy lifestyles, and student governance were considered only partially. This means that while Kazakhstan is very active in promoting the SDGs set by the United Nations at the national level, serious gaps still exist in the comprehensive approach to integrating sustainability into the educational systems at the tertiary level. Quality Assurance: Kazakh universities adhere to the Standards and Guidelines for Quality Assurance in the European Higher Education Area - ESG. At the same time, ESG serves mainly as an inspirational tool and is far from being fully realized as a part of the educational system. At the beginning of the 2023-2024 academic year, 124 higher education institutions were operating in the country, educating more than 592,700 undergraduate students and 42,500 master's and doctoral candidates. Such a large volume of students requires an appropriate quality assurance system to guarantee the excellence of education. A good example of such an approach is the experience of Kazakhstan, where digitization included creating a National Open Educational Platform and integrating ICT into university curricula in 80% of its universities.

This will pave the way for better access to education and place Kazakhstan at the forefront of the latest global trends in digital learning. All these together mark the road for Kazakhstan to integrate ESG principles into its higher education system. This notwithstanding, the evidence suggests that a more integrated and coordinated overall approach remains imperative for fully unlocking the potential of integrating ESG into education, therefore contributing to the country's sustainable development goals.

5. Conclusion

Applying ESG principles in Kazakh higher education is a prime opportunity to align the nation's educational direction with contemporary global approaches toward sustainability and governance.

The paper covers aspects of success and continuing challenges in implementing ESG principles within academia, operations, and governance. Institutions such as Al-Farabi Kazakh National University and Almaty Management University spent considerable effort in implementing pioneering programs and adopting international frameworks that incorporate sustainability into their academic offering. Their work is a statement to witness what Kazakhstani universities can do, standing as drivers toward a more sustainable culture among students and staff alike. Nonetheless, challenges persist, including lack of awareness about the principles of ESG, lack of adequate faculty training, and absence of mandatory reporting frameworks. These have resulted in fragmented implementation and unequal progress within different institutions.

In the presence of these dilemmas, this research demands coordinated national policies that ensure a requirement for ESG reporting with mechanisms for accountability. This calls for integrating ESG principles throughout disciplines, increased professional development programs for educators, and increased international collaborations as crucial ways to help accomplish that. These will go a long way in advancing the integration process, besides other measures like engaging students in sustainability-related extracurricular activities and establishing standard measurement tools for ESG performance. Far-reaching are the broader repercussions of ESG integration. Enrooting principles of sustainability into the very core of university life, Kazakhstani universities could be made more competitive globally while also adequately preparing graduates to address pressing sustainability challenges and positioning themselves as a key driver for the sustainable development agenda in their nation. Further, conformity to internationally recognized standards through frameworks like the United Nations Sustainable Development Goals and quality assurance mechanisms will most likely make institutions more resilient and flexible in a world in dynamic flux.

While Kazakhstani higher education has indeed taken important steps toward engagement with ESG principles, much remains to be done on the way to its comprehensive, systematic operation. By closing the gaps and leveraging the opportunities highlighted, Kazakhstani higher education will help shape the pathway toward a more sustainable and inclusive future locally and globally. The implementation calls for an inclusive approach by policymakers, heads of education, and stakeholders to establish a sound framework to help inculcate ESG principles into higher education over the long term.

Acknowledgments

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