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## COMPARATIVE ANALYSIS OF ESG AND SDG APPROACHES AND THEIR APPLICATION IN HIGHER EDUCATION MANAGEMENT

### Abstract

Sustainability has become a central issue in modern higher education, yet the two main assessment frameworks – ESG and SDG are often confused with each other. In this article, we compare these two approaches and explore their place in higher education governance. Based on a qualitative methodology, we conducted a comparative and thematic analysis of scientific literature and official statistics from international organizations (UN, PRI, THE, QS, UI GreenMetric) after 2020. Our results show that the two frameworks differ in their origins, governance level, and measurement mechanisms, but complement each other in their environmental and social dimensions. While ESG represents a measurable framework at the organizational level, the SDGs set a global direction. In the case of Uzbekistan, it was found that higher education institutions have made progress in environmental sustainability but lag in the academic integration of the SDGs. The article recommends the parallel development of the two frameworks for universities and the systematic integration of sustainable development principles into the educational process.

**Keywords:** *ESG, SDGs, sustainable development, higher education management, comparative analysis, university rankings, Uzbekistan.*

### 1. Introduction

Sustainable development has become a central issue on the global agenda in the 21st century. This process has given rise to two leading concepts: the SDGs (Sustainable Development Goals) and the Environmental, Social, and Governance (ESG) framework. While both concepts focus on environmental and social sustainability, they differ significantly in their origins, scale, level, and measurement mechanisms. In recent years, the relationship between these two concepts has been actively discussed in the scientific literature, particularly their interaction in higher education governance [1, 2].

The SDG framework was adopted by the United Nations in 2015 as part of the 2030 Agenda for Sustainable Development and consists of 17 goals and 169 targets. It is a universal macro-level framework for countries and the global community. However, its implementation faces serious challenges: according to the official UN report, of the 139 goals that can be assessed by 2025, only 35% are being achieved satisfactorily (18% are fully on track, 17% are moderately on track), and 18% are behind the 2015 baseline; the annual financing gap in developing countries has reached US\$4 trillion [3, 4]. Sustainable Development Goal 4 (quality education) directly links higher education to this agenda.

However, the ESG concept emerged in a different way. Its conceptual roots go back to Elkington's [5] "triple bottom line" framework and Freeman's stakeholder theory [6], and its formal form was established in 2004 following the UN report "Who Cares Wins" [7]. Unlike the SDGs, ESG was initially developed for investors and corporations, that is, to assess operational and managerial performance at the (micro) level of an organization. Its global reach is evident from statistics: over 5,000 organizations have signed the Principles for Responsible Investment (PRI), and the volume of assets under management exceeds US\$139.6 trillion [8].

Thus, the main difference between the two concepts can be summarized as follows: the SDGs are a set of universal, country-level goals that emerged in 2015; ESG is a measurable, organizational-level metric established in 2004. The similarity lies in the fact that both systems encompass the environmental and social aspects of sustainable development and complement each other – the possibility of “mapping” corporate ESG metrics to the Sustainable Development Goals (SDGs) has recently been actively explored [1, 20]. An important theoretical difference is that ESG transforms sustainable development into a measurable, reportable framework for an organization, while the SDGs define its global direction.

This distinction is particularly evident in higher education governance, as universities operate within both frameworks simultaneously. This is clearly reflected in international ranking systems: THE Impact Rankings directly assesses universities against 17 Sustainable Development Goals (SDGs), and in 2025, a record 2,526 universities from 130 countries participated [9], while the QS Sustainability Rankings (first published in 2022) specifically measures the impact of ESG factors on a university [1, 10]. Furthermore, the UI GreenMetric ranking in 2025 included 1,745 higher education institutions from 105 countries [11]. Thus, the systematic integration of ESG factors and SDGs into education management is becoming increasingly relevant [12, 13]. At the same time, the implementation of ESG principles brings tangible economic benefits to institutions: universities that apply sustainable development principles and transparent governance build high levels of student trust and loyalty [14].

In Uzbekistan, modernization of the higher education system, expanding institutional autonomy, and ensuring sustainable development have become a priority area of public policy; this area received a legal basis in Decree of the President of the Republic of Uzbekistan No. PF-5847 [15]. The practical changes are significant: the country’s university participation in the UI GreenMetric ranking increased from one institution in 2019 to 79 in 2025, 38 of which were among the top 1,000 greenest universities in the world [16]. At the same time, awareness of sustainable development goals among teachers and students in the region remains limited, and this issue is often insufficiently reflected in curricula [17, 18].

The above analysis shows that, despite the active international study of the ESG and SDG concepts, their differences, similarities, and joint application in higher education governance, particularly in the context of Uzbekistan, remain insufficiently studied. The purpose of this article is to conduct a conceptual comparative analysis of the ESG and SDG approaches and identify their application in higher education governance based on international experience and official statistical data. Based on this goal, the following objectives were set: (a) to compare the origins, scope of application, and measurement mechanisms of the ESG and SDG concepts; (b) to determine their interrelationships in higher education governance; and (c) to develop practical recommendations for Uzbek higher education institutions.

## 2. Materials and Methods

In this article, we relied on a qualitative methodology. The study is based on a systematic analysis of secondary sources. The reason is simple: to compare ESG and SDG approaches, it is first necessary to theoretically compare their conceptual foundations, measurement systems and practical results, while primary experimentation is less suitable for such a task. When collecting sources, we focused on three groups. The first is scientific articles published in reputable international journals after 2020, devoted to the role of ESG and SDG in higher education. The second is official reports and websites of international organizations: United Nations Sustainable Development Goals Reports [4, 19], Principles for Responsible Investment (PRI), official data from Times Higher Education, QS and UI GreenMetric ratings. The third group was formed by regulatory documents of Uzbekistan, in particular Presidential Decree No. PF-5847.

We followed several criteria when selecting sources. Relevance was the first priority, we selected works from the last five years as much as possible, but we also turned to several classical theoretical sources to explain the origins of ESG and SDG. Reliability was the second condition:

we used only academic publications, official government documents, and primary data from recognized rating organizations. We excluded unverified online sources from the analysis.

We processed the collected material using comparative analysis and thematic analysis methods. First, we compared the two frameworks according to the main criteria — origin, level of governance, structure, measurement mechanism, and level of binding. As a result, the comparative analysis presented in Table 1 was formed. Then, we analyzed the practical reflection of the two approaches in higher education management on the example of rating systems and summarized it in Table 2. As a theoretical basis, we used stakeholder theory and the concept of sustainable development.

As with any research, our work is not without limitations. Since it is based on secondary data, conclusions are limited by the scope of available sources. We did not collect primary empirical data (questionnaires or interviews) on Uzbek universities; this remains an open area for further research.

### 3. Results

The comparative analysis revealed that the ESG and SDG approaches represent two complementary but fundamentally different concepts. The results are presented below in three areas: conceptual comparison, application to higher education management, and the situation in Uzbek higher education institutions.

#### 3.1. Conceptual Comparison of ESG and SDG

A comparison of the two concepts using key criteria revealed that they differ in origin, governance level, and measurement mechanism, but overlap in environmental and social aspects (Table 1).

**Table 1. Comparative analysis of ESG and SDG approaches**

Criterion	ESG	SDG
Year of emergence	2004 (“Who Cares Wins” report)	2015 (UN 2030 Agenda)
Initiator	UN Global Compact and the financial sector/investors	UN member states
Level of governance	Organizational level (micro)	National and global level (macro)
Primary aim	Assessing an organization’s environmental, social and governance risks	Addressing global poverty, inequality and environmental challenges
Structure	3 dimensions: environmental (E), social (S), governance (G)	17 goals, 169 targets, 200+ indicators
Measurement mechanism	Ratings, scores and disclosure	National statistical indicators and progress reports
Level of obligation	Mainly voluntary (disclosure mandatory in some jurisdictions)	Political commitment (not legally binding)
Ranking system in education	QS Sustainability Rankings	THE Impact Rankings
Main limitation	Inconsistency among rating agencies; lack of standardization	Slow progress (35% in 2025); financing gap

*Source: UN Global Compact (2004); United Nations (2025); PRI (2025); Compiled by the author based on Ankareddy et al. (2025).*

The analysis shows that ESG transforms sustainability into a measurable and reportable framework for an organization, while SDGs define its global direction. The connection between them is that corporate or institutional ESG indicators can be “mapped” to specific SDG goals. For example, an institution’s environmental (E) indicators are directly linked to SDG 13 (climate

action) and SDG 7 (affordable energy). In contrast, social (S) indicators are directly linked to SDG 4 (quality education) and SDG 5 (gender equality) [2].

### 3.2. Application in higher education management

The distinction between the two frameworks has found practical application in higher education management through international ranking systems. The results show that universities use both approaches simultaneously, but different ranking systems rely on different frameworks (Table 2).

**Table 2. Higher education sustainability rankings and their underlying frameworks**

Ranking system	Underlying framework	What it measures	Scale in 2025
<b>THE Impact Rankings</b>	SDG	University contribution across the 17 SDGs	2,526 universities from 130 countries
<b>QS Sustainability Rankings</b>	ESG	Environmental, social and governance impact	Since 2022 (ESG-based)
<b>UI GreenMetric</b>	Environmental (mainly E)	Campus environmental sustainability (6 criteria)	1,745 universities from 105 countries

*Source: Times Higher Education (2025); QS Quacquarelli Symonds (2024); UI GreenMetric (2025).*

This result allows us to draw an important conclusion: effective educational governance requires integrating these two concepts as complementary systems, not as opposing ones. ESG regulates a university's internal operational and management processes, while the SDGs define its external mission to society [12, 13]. This integration also makes economic sense: universities that actively implement principles of sustainable development and transparent governance generate higher levels of trust and loyalty among students [14].

### 3.3. The Situation in Uzbek Universities

The case of Uzbekistan clearly demonstrates the difference between the two concepts. Practical growth in the environmental (E) dimension is significant: the country's university participation in the UI GreenMetric ranking increased from one institution in 2019 to 79 in 2025, 38 of which were among the top 1,000 greenest universities in the world; Bukhara State University became one of the leaders in the region, ranking 401st with a score of 72.38% [16]. However, a gap remains in measuring SDGs, particularly in their academic-social aspect: students receive information about the Sustainable Development Goals more often through social media, and this issue is insufficiently reflected in the curricula [17].

The overall result shows that although Uzbek higher education institutions have made significant progress in the environmental and operational (campus sustainability) ESG dimension, they still lag in measuring the academic integration of SDGs, that is, in terms of curricula and academic engagement [16]. This confirms the need for a balanced integration of the two conceptual frameworks.

## Conclusion

In this article, we compared the ESG and SDG approaches and analyzed their place in higher education governance. Our key conclusion is simple: these two concepts are not rivals, but partners. The SDGs define a goal, they show the direction in which society is moving. ESG serves as a tool for measuring progress along this path. In our view, it would be a theoretical mistake to contrast them.

Our analysis clearly demonstrates the difference between the two concepts. ESG emerged in 2004, based on the needs of the financial sector; it operates at the organizational level and is based on measurable indicators. The SDGs, on the other hand, are a set of universal humanitarian

goals at the national and global levels, adopted by the UN in 2015. The difference is that one is micro-focused, the other macro-focused. The similarity lies in the overlapping environmental and social dimensions, complementing each other.

The experience of Uzbekistan provides a practical basis for this theoretical conclusion. The country's universities have made significant progress in the environmental aspect – campus sustainability, as evidenced by a sharp increase in participation in the GreenMetric program. However, the academic-social aspect of the SDGs, namely the integration of sustainable development principles into the educational process, still lags. Therefore, we recommend that universities develop these two areas in parallel: if they fail to balance environmental achievements with the integration of these principles into the curriculum, ESG may remain at a formal level. Given the theoretical nature of our study, collecting primary data from Uzbek universities in future studies will further strengthen these findings.

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