

Structural Equation Modeling of Sustainability Performance, Partnerships, and Leadership to the Global University Rankings

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Abstract: This study examines the interplay between sustainability performance, strategic partnerships for the 17 Sustainable Development Goals (SDGs), and leadership competencies, and how these factors collectively affect global university rankings. Guided by Corporate Social Responsibility (CSR), Shareholder Value Theory (SVT), and Transformational Leadership, it uses a cross-sectional explanatory design with 351 respondents from four state universities and colleges in Region VII, Philippines. Of 35 indicators, 19 were removed after rigorous Exploratory and Confirmatory Factor Analysis (EFA and CFA), and Structural Equation Modeling (SEM) confirmed a good model fit. Results challenge conventional assumptions, showing no direct link between environmental sustainability and overall performance, while economic sustainability aligns strongly with CSR and SVT. Social sustainability's effect is inconclusive, but institutional partnerships positively impact sustainability performance. Leadership competencies significantly influence global rankings but do not directly mediate sustainability outcomes. Limitations include a limited sample and lack of longitudinal data. Future research should expand institutional coverage, use mixed methods, revisit excluded constructs, and incorporate cross-cultural, longitudinal designs. The study offers empirical insights that both affirm and question existing theories, contributing to policy, governance, and strategic decision-making for sustainability and competitiveness in Philippine higher education institutions (HEIs).

Keywords: Education for Sustainable Development, Academic Leadership, Sustainability Performance, and Sequential Equation Modeling & Global University Ranking.

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I. INTRODUCTION

Global university ranking systems, including the Academic Ranking of World Universities (ARWU), Quacquarelli Symonds (QS), and Times Higher Education (THE), have become influential benchmarks for assessing the performance of higher education institutions (HEIs) worldwide. These ranking organizations employ standardized indicators—such as teaching quality, research productivity, citation impact, industry engagement, and international outlook—to facilitate global comparisons (Benner, 2020; Hung & Yen, 2022). While rankings contribute to shaping institutional reputation and the concept of “world-class” universities, scholars caution that they should be used as reference points rather than definitive measures of quality, given the importance of factors such as program offerings, faculty expertise, research opportunities, infrastructure, and student services (Hazelkorn, 2013).

The pursuit of global recognition increasingly intersects with the United Nations’ 17 Sustainable Development Goals (SDGs), which emphasize economic, social, and environmental dimensions of sustainability (Liao, 2011; Swain & Yang-Wallentin, 2019). Industrialized nations often prioritize social and environmental sustainability, whereas developing countries focus on economic and social challenges. Despite the SDGs’ aspirational scope, their universal and complex nature presents challenges in quantification and operationalization within HEIs. Moreover, the relationship between sustainability performance and global university rankings remains underexplored, with leadership playing a potentially critical yet insufficiently studied role.

Existing literature reveals three main gaps: (1) limited empirical analysis on the operational integration of sustainability in HEIs, including governance, energy management, and infrastructure; (2) insufficient understanding of how global outlook fosters innovation, collaboration, and sustainable behaviors in varied institutional contexts; and (3) a lack of clarity on how leadership styles influence sustainability outcomes and institutional performance. This study addresses these gaps by developing and testing a structural model linking sustainability performance, SDG-focused partnerships, and leadership competencies to global university ranking criteria. Findings are expected to provide actionable insights for policymakers, administrators, and educators seeking to enhance institutional excellence, global competitiveness, and sustainable development integration in higher education.

II. CONCEPT GENERATION

This study’s theoretical framework draws on three core theories: Corporate Social Responsibility (CSR), Shareholder Value Theory (SVT), and Transformational Leadership Theory (TLT). CSR, as outlined by Carroll (1979, 1991) and Spence (2016), stresses balancing profitability with economic,

legal, ethical, and philanthropic responsibilities to promote societal welfare. SVT (Jensen & Meckling, 1976; Crane et al., 2008) focuses on maximizing shareholder value while considering stakeholder interests for sustainable development. TLT, introduced by Burns and expanded by Bass, emphasizes inspiring motivation, intellectual stimulation, individualized consideration, and idealized influence to drive change (Korean & Shahbazi, 2016; Susilo, 2019). Together, CSR and SVT explain the economic, social, and environmental aspects of sustainability, while TLT highlights leadership’s role in fostering innovation, collaboration, and institutional excellence. This combined framework guides the study in examining how sustainability performance, SDG-focused partnerships, and leadership competencies interact to influence global university rankings, offering insights into higher education institutions’ (HEIs) pathways to global competitiveness.

H1. Environmental Sustainability Affects the Sustainability Performance of Higher Academic Institutions

Environmental sustainability in higher education involves reducing resource consumption—such as energy, water, and materials—and minimizing pollution through eco-friendly infrastructure, waste management, and renewable energy use (Aleixo et al., 2018a; Cathryn & Deborah, 2008; Lozano, 2011). Education for Sustainability fosters actions that restore Earth’s systems (Moffatt, 2001), with policies like Sweden’s mandating systemic sustainability in universities. However, institutional culture and values are as crucial as government initiatives in successful implementation (Janicke, 1997; Carraro, 1999; Pappas, 2012). When embraced by leaders, faculty, and students, environmental sustainability can drive institutional change, enhance innovation, and improve competitiveness, as shown in Faghihimani’s (2012) University of Oslo case study.

H2. Economic Sustainability Affects the Sustainability Performance

Economic sustainability in higher education refers to the efficient use, conservation, and management of resources to create long-term value through reuse, recovery, and recycling, ensuring that future generations can meet their needs (Aleixo et al., 2018a; Lozano, 2011). It emphasizes strengthening budgets for sustainability initiatives, improving energy efficiency, and enhancing economic productivity. In the business context, it involves optimizing resources for long-term stability and maintaining capital (Gajetti & Maggiore, 2013; Goodland, 2002; Anand & Sen, 2000), aligning with intergenerational fairness and production systems that meet present demands without compromising the future (Basiago, 1999; An-Naf, 2005). In higher education, strong economic foundations enable institutions to contribute to regional growth and innovation, as shown by Pedro et al. (2022), while Waheed (2011) highlights the importance of integrating

economic progress, social justice, and environmental education for lasting sustainability.

H3. Social Sustainability Affects the Sustainability Performance of Higher Academic Institutions

Social sustainability in higher education aims to create environments that promote well-being, inclusivity, and community engagement for staff and students (Scott, 2009). It integrates corporate social responsibility, workplace safety, health, ethics, diversity, and fairness, alongside initiatives that foster cultural, recreational, and social integration for the benefit of both the institution and the wider community (Aleixo et al., 2018a; Lozano, 2011). It is reflected in systems, structures, and relationships that support equitable, connected, and livable communities, emphasizing quality of life, adaptability, and participation (Woodcraft, 2011). As a pillar of global sustainable development, social sustainability encompasses equity, inclusion, prosperity, resilience, and accountability, aiming to improve living standards and strengthen institutional and societal structures (Awan et al., 2020; Imperiale & Vanclay, 2021; Beltagui et al., 2020; Karji et al., 2020). Davidson (2010, as cited by Brenner, 2009) further highlights its role in shaping socio-political dynamics, reinforcing power systems, and influencing long-term institutional development.

H4. Sustainability Performance Affects the Partnership to Achieve the Goals

Sustainability performance, as defined by Ullmann (1985) and Griffin & Mahon (1997), is a multidimensional construct reflecting an entity's commitment to actions that foster sustainable development through effective management of social, environmental, and economic impacts (Ioannou & Serafeim, 2012; Buyukozkan & Karabulut, 2018; Fu et al., 2020). In the context of higher education institutions (HEIs), sustainability performance extends beyond operational impacts to include shaping human behavior and culture through education, producing innovative research to address sustainability challenges, and engaging diverse stakeholders to promote sustainability at local to global scales (Stephens et al., 2008; Godemann et al., 2014). It encompasses the integration of equity, social justice, and education for sustainable development into institutional missions. Leadership plays a crucial role in this process, with effectiveness depending on both organizational context and the leader's attributes (Davis, 2007; Kowo et al., 2019). Strong sustainability performance provides competitive advantages to organizations, reinforces social accountability, and influences both public and private sector outcomes (Pitelis & Wagner, 2019; Brown, 2011; Armstrong, 2009; Hartline & Wooldridge, 2003).

H5. Leadership Competences Affects Sustainability Performance Affects

Leadership competencies play a pivotal role in influencing sustainability performance, aligning with the International Union for Conservation of Nature's (IUCN, 1991) definition of sustainable development as improving quality of life within environmental limits, and Viederman's (1994) view that sustainability requires utilizing all resources while ensuring fiscal stability, democratic governance, and environmental integrity for the benefit of future generations. While transformational leadership is often seen as a driver of organizational success, studies show mixed outcomes. Risambessy (2012) found a direct link between transformational leadership effectiveness and employee performance, while Pham et al. (2019) demonstrated that sustainable practices combined with strong leadership enhance the relationship between environmental initiatives and sustainable outcomes in construction firms. Similarly, Kowo et al. (2019) emphasized the importance of strategic planning in sustaining financial performance in SMEs, noting that effective leadership mitigates losses, reduces employee turnover, and prevents business decline. Supporting this, Ssebunya (2019) and Tseng (2018) highlighted that well-executed leadership strategies significantly improve return on investment and overall productivity, underscoring the critical role of competent leadership in advancing sustainability goals.

H6. Partnership to Achieve the Goals Affects Global University Rankings

Partnerships, defined as strategic alliances between independent entities with shared goals, give higher education institutions advantages such as access to new technologies, markets, and knowledge, while reducing risks through shared expertise (Bleeke & Ernst, 1991; Powell, 1990). These collaborations, however, may also lead to reduced autonomy and greater complexity (Provan, 1984; Williamson, 1975). In the context of global university rankings, stakeholders—including government, staff, and students (Bolton & Nie, 2010; de Lange, 2013; Trencher et al., 2013)—influence sustainability outcomes by providing resources and shaping institutional priorities (Mitchell et al., 1997; Agle et al., 1999). Universities address stakeholder needs through governance structures, policies, and systems that implement sustainability initiatives (Klettner et al., 2014; Fu et al., 2020), supported by frameworks such as staffing, policies, and management platforms (Clarke & Kouri, 2009; Disterheft et al., 2012). Leadership is critical, as leaders focus organizational attention on sustainability priorities (Ocasio, 1997, 2011), leverage employee skills, and sustain productivity during challenges (Delmas & Pekovic, 2018; Toker, 2022). Studies, such as Bastari, Eliyana, and Wijayant's (2020) research on Taiwanese state-owned companies, show that transformational leadership boosts performance and motivation, enhancing institutional capacity. Thus, strong partnerships and effective leadership jointly improve sustainability performance, reputation, and global competitiveness.

H7. Leadership Competencies Affect Global University Rankings

Leadership competencies directly influence a university's global ranking by shaping its ability to adapt, innovate, and sustain high performance. Leaders with a global mindset can work effectively across cultures, drive change, foster learning, and inspire excellence (Moran & Riesenberger, 1994). Key traits include relationship management, personal effectiveness, business acumen, adaptability, and cultural literacy (Brake, 1997; Rosen, 2000). These align with Sustainable Leadership (SL), which promotes socially responsible practices, balances organizational and employee needs, and enhances economic, social, and environmental outcomes in governance, operations, teaching, and research (Alghamdi et al., 2017). Grounded in transformational leadership, SL encourages innovation, knowledge sharing, and sustainability-oriented solutions while improving motivation, creativity, and productivity (Christensen et al., 2014; Ramus & Steger, 2000). Effective leaders also enhance quality of work life by ensuring fairness, dignity, and professional growth, preventing demoralization, and fostering a shared sense of purpose (Budur, 2020; Toker, 2022). By cultivating these competencies, universities can strengthen institutional performance, boost adaptability, and enhance their reputation in global rankings.

H8. Sustainability Performance Affects Global University Rankings

Sustainability centers on responsible progress that meets present needs without compromising future generations' ability to meet theirs (WCED, 1987). The Ministry of Energy, Research and Nature of Québec (2000) further describes it as ensuring long-term health and well-being for all. Both emphasize protecting natural resources as essential for lasting economic and social development, highlighting "intragenerational and intergenerational equity" in resource distribution. In higher education, including sustainability indicators in rankings encourages action, tracks progress, and signals commitment to environmental goals. Since the 1972 Human Environment Declaration, initiatives like HESI, the People's Sustainability Treaty on Higher Education, Copernicus Charta 2.0, and the G8 University Summit have urged universities to integrate sustainable practices into operations, not only reducing environmental impacts but also driving social change. This involves sustainable management in infrastructure, energy, waste, and water. At Indonesia's National Institute of Science and Technology (ISTN), a proposed green campus master plan—featuring parks, jogging tracks, waste and water treatment, recycling, bike facilities, solar lighting, and more—boosted its UI GreenMetric score from 2,850 to 4,150, positioning it closer to global recognition for sustainability.

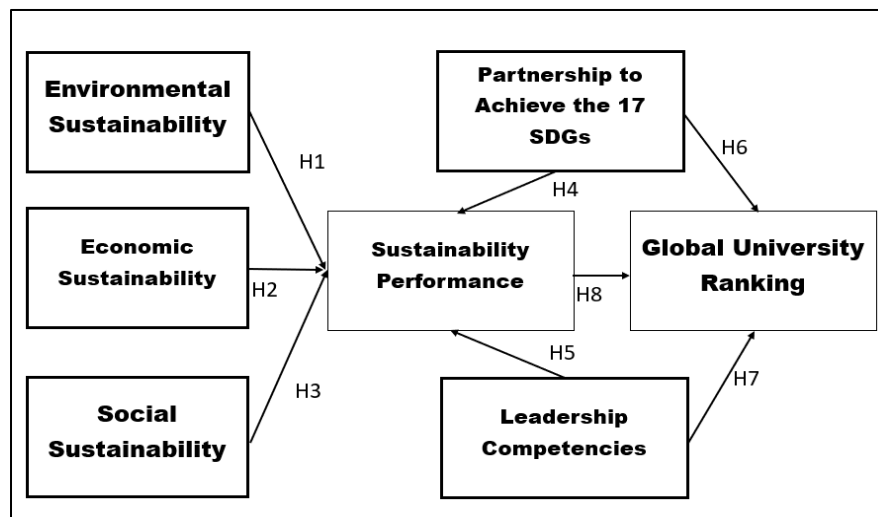


Fig 1. The Proposed Structural Model

➤ Research Hypotheses:

- H1. Environmental Sustainability Affects the Sustainability Performance
- H2. Economic Sustainability Affects the Sustainability Performance
- H3. Social Sustainability Affects the Sustainability Performance
- H4. Partnership to Achieve the Goals Affects Sustainability Performance

- H5. Leadership Competences Affects Sustainability Performance Affects
- H6. Partnership to Achieve the Goals Affects Global University Rankings
- H7. Leadership Competencies Affect Global University Rankings
- H8. Sustainability Performance Affects Global University Rankings

III. RESEARCH METHODOLOGY

This study used a cross-sectional explanatory research design to assess respondents' views on the study variables. A cross-sectional design collects data from selected individuals at one point in time, giving a snapshot of a population's attitudes, behaviors, or conditions. Quantitative research collects and analyzes numerical data to describe, explain, predict, and control variables (Gay et al., 2012). Explanatory research aims to understand relationships between variables and identify possible cause-and-effect links (Zikmund et al., 2012). The study applied an "abductive axiomatic quantitative method," combining abductive reasoning to form explanations, axiomatic systems for logical structure, and quantitative methods for data collection and analysis.

The research was conducted in four state universities and colleges in Region VII, Philippines. Two of these ranked in the top five of the QS World Rankings, while the rest, though unranked globally, contribute significantly to education. This mix of institutions provided a diverse context for analyzing higher education in the region.

Purposive sampling was used to select full-time faculty members from the identified universities. Criteria included over five years of teaching experience, age over 21, and inclusion of both male and female participants. Respondents from vulnerable groups (minors, persons with disabilities, senior citizens, and those with medical concerns) were excluded. The study targeted 454 respondents, using Google Forms for data collection, but only 215 responses were received. To increase participation, printed surveys were distributed, adding 136 responses for a total of 351. While Gay et al. (2012) recommend at least 400 respondents for populations over 5,000, the sample was lower, which may affect the study's results.

The study followed Hinkin's (1998) six-stage protocol for developing and validating research instruments: (1) item generation to reflect the construct, (2) data collection, (3) item reduction through factor analysis, (4) confirming validity and reliability, (5) assessing convergent and divergent validity, and (6) testing for stability over time. The last step was not applied since Structural Equation Modeling (SEM) requires a minimum of 300 responses for good model fit (Fornell & Larcker, 1981; Gagne & Hancock, 2006; Dueber, 2017). This structured approach ensured the instrument's theoretical and empirical reliability.

The main constructs with corresponding items and sources: Environmental Sustainability (7 items), Economic Sustainability (7), Social Sustainability (8), Goal 17 – Partnerships (6), Sustainability Performance (4), Leadership Competencies (10), and World University Ranking (9). For instance, Environmental Sustainability covers resource conservation, waste management, and green technology, while Leadership Competencies assess foresight, strategic thinking, and resource management. These constructs provide a comprehensive framework for assessing sustainability practices, leadership skills, and integration of Sustainable Development Goals (SDGs) in higher education.

The Exploratory Factor Analysis (EFA) process included: (i) designing the survey, (ii) cleaning and preparing data, (iii) identifying factors through Principal Component Analysis (PCA), and (iv) rotating factors for clarity. Items with factor loadings above 0.4 or 0.5 were retained. Model fit was assessed with the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test using SPSS. Data were analyzed using SPSS 22.0 and AMOS 22.0. Descriptive statistics described respondents' profiles, EFA was followed by Confirmatory Factor Analysis (CFA), and discriminant validity was tested through Pearson's correlations and average variance extracted. SEM was used to test relationships and hypotheses at a 0.05 significance level.

The study complied with ethical consideration guidelines, ensuring informed consent, confidentiality, voluntary participation, non-discrimination, and minimization of harm. Participants were informed of the study's objectives, procedures, risks, and benefits before participation and could withdraw anytime without penalty. The research was reviewed and approved by an ethics committee to ensure compliance with standards for human subjects' research.

IV. RESULTS AND DISCUSSION

This section provides key insights into our research. This study starts by sharing details about the participants' socio-demographic profiles. Then, it discusses how reliable our measurements are using Convergent and Internal Consistency Results. It also checks the distinctiveness of our variables in Discriminant Validity Results. To support our hypotheses, the study used Model Data Fit Indices Threshold Value and SEM. All these findings shape and improve the final research instrument. And lastly, it also validates the identified theories, helping build a new and robust concept based on the final structural model of our study.

Table 1. Demographic Profiles of Respondents (n=351)

Demographic Profiles	Category	f	%
AGE	22-25	86.0	24.50
	26-30	140.0	39.89
	31-35	59.0	16.81
	36-45	51.0	14.53

	46-60	15.0	4.27
Number of Years Teaching	1 to 10	313	89.17
	11 to 17	35.0	9.97
	31 to 42	3.0	0.85
Sex	Male	141	40.17
	Female	207	58.97
Highest Educational Attainment	College Graduate	224	63.82
	Master's Degree	107	30.48
	Doctoral Degree	19	5.41

The social demographic profile of the teaching staff in table 1, especially the distribution of teachers with advanced degrees and 1 to 10 years of teaching experience, has important implications for the proposed study. Since a significant portion of the respondents are young and well-

educated, there is a possibility for their active involvement in sustainable development efforts in higher HEIs. These teachers, who have a strong educational background and are enthusiastic about their careers, can play a critical role in implementing and promoting sustainability practices.

Table 2. Convergent and Internal Consistency Results of the Scale

Factor Name	Item Name	Standardized Factor Loadings (l)	Squared Loadings (l^2)	Error Variance ($1-l^2$)	Sum of Loadings ($\sum l$)	Sum of Squared Loadings ($\sum l^2$)	Sum of Error Variance ($\sum (1-l^2)$)	Composite Reliability (CR)	Average Variance Extracted (AVE)
EST	EST3	0.84	0.71	0.29	1.72	1.48	0.52	0.85	0.74
	EST5	0.88	0.77	0.23					
SSY	SSY2	0.89	0.79	0.21	2.49	2.07	0.94	0.87	0.69
	SSY3	0.80	0.64	0.36					
	SSY4	0.80	0.64	0.36					
PAG	PAG2	0.89	0.79	0.22	2.45	2.02	0.98	0.86	0.67
	PAG4	0.74	0.55	0.45					
	PAG5	0.83	0.68	0.32					
SPE	SPE1	0.89	0.79	0.21	1.75	1.53	0.47	0.87	0.77
	SPE2	0.86	0.75	0.26					
LCS	LCS1	0.73	0.54	0.46	2.37	1.88	1.12	0.83	0.63
	LCS3	0.79	0.63	0.37					
	LCS4	0.84	0.71	0.29					
GUR	GUR3	0.79	0.63	0.37	1.51	1.15	0.85	0.73	0.57
	GUR6	0.72	0.52	0.48					
ESU	ESU1	0.94	0.88	0.12	1.76	1.56	0.44	0.88	0.78
	ESU2	0.83	0.68	0.32					

Table 2 presents the dependability of the constructs indicated by high factor loadings, squared loadings, and low error variance. Remarkable items include ESU1 and ESU2, EST3 and EST5, SSY2, SSY3, and SSY4, PAG2, PAG4, and PAG5, SPE1 and SPE2, LCS1, LCS3, and LCS4, and GUR3 and GUR6. The guidelines for Construct Reliability (CR) and construct validity are as follows: if $CR \geq 0.7$, it is considered satisfactory, with a suggested threshold of 0.6 (Bacon et al., 1995); for construct validity, it is deemed satisfactory if $Average\ Variance\ Extracted\ (AVE) \geq 0.5$ (Fornell & Larker, 1981). Nevertheless, acceptable measurement quality is attained when AVE is below 0.5 if CR is high (>0.7) (Bagozzi & Yi, 1988). In this investigation, the Composite Reliability (CR) values surpass 0.7, demonstrating robust dependability, while the Average Variance Extracted (AVE) values

predominantly exceed 0.5, ensuring construct validity. These findings affirm the strength of the measurement model, endorsing the dependability and validity of the constructs when evaluating sustainability in HEIs. The study can confidently employ this scale in comparable contexts.

Originally, the assessment of sustainability consisted of 35 different elements spread across various categories. However, afterwards, 19 statements were removed from the initial set of statements. These eliminations impacted different categories differently. ESU lost 5 statements, EST lost 4 elements, Social SSY lost 4 statements, PAG lost 3 statements, SPE lost 2 statements, LCS lost 4 statements, and GUR lost 6 statements. This statements from each construct are remove to establish validity of the scale [See Appendix A

for the final standardized Instrument].

Table 3. Discriminant Validity Results

	ESU	GUR	LCS	SPE	PAG	SSY	EST
ESU	1						
GUR	0.762	1					
LCS	0.676	0.762	1				
SPE	0.72	0.774	0.681	1			
PAG	0.731	0.82	0.733	0.841	1		
SSY	0.81	0.838	0.803	0.805	0.844	1	
EST	0.881	0.754	0.596	0.812	0.782	0.849	1
AVE	0.7793	0.57362	0.62564	0.76577	0.67212	0.73905	0.73905
√AVE	0.88278	0.75738	0.79097	0.87508	0.81983	0.85968	0.85968

Note for mean. 1.00 – 1.80 = Strongly Disagree; 1.81 – 2.60 = Agree; 2.61 – 3.40 = Neutral; 3.41 – 4.20 = Agree*; 4.21 – 5.00 = Strongly Agree**

The provided correlation matrix and discriminant validity results in table 3 showcased the uniqueness of each construct (ESU, GUR, LCS, SPE, PAG, SSY, EST) through the diagonal values of square root of Average Variance Extracted or $\sqrt{\text{AVE}}$. These values measure the construct's ability to capture variance relative to measurement error. To evaluate discriminant validity, we compare these $\sqrt{\text{AVE}}$ values with the correlations between constructs. If the $\sqrt{\text{AVE}}$ of a construct is higher than its correlation with other constructs, it signifies good discriminant validity. This suggests that the construct is more closely related to its own indicators than to other constructs in the model. For instance, the $\sqrt{\text{AVE}}$ for ESU (0.88278) surpasses its correlation with GUR (0.762), indicating strong discriminant validity between Environmental Sustainability and Global University Ranking. We can draw similar comparisons for other constructs.

Table 4. Model Data Fit Indices Threshold Value

Model Fit Indices	Proposed Threshold	Source	Resulting Value
CFI	> 0.80	(Garson, 2006)	0.96
TLI	> 0.85	(Sharma, Mukherjee, Kumar, & Dillon, 2005)	0.943
RMSEA	< 0.08	(Kenny, Kaniskan, & McCoach, 2014)	0.08
SRMR	≤ 0.08	(Hu & Betler, 1999)	0.028
Chi-square/df ratio	< 3.00	(Hair, Black, Babin, & Anderson, 2009)	3

Table 4 presents fit indices for the model, along with their proposed threshold values, providing insights into the goodness-of-fit for the SEM. The Comparative Fit Index (CFI) exceeds the suggested threshold of 0.80, indicating an excellent fit for the model (Garson, 2006). The Tucker-Lewis Index (TLI) also meets the proposed threshold of greater than 0.85, further supporting the adequacy of the model (Sharma et al., 2005). The Root Mean Square Error of Approximation (RMSEA), although slightly surpassing the recommended cutoff of 0.08, falls within an acceptable range at 0.08, suggesting a reasonable fit (Kenny, Kaniskan, & McCoach, 2014). The Standardized Root Mean Square Residual (SRMR) comfortably meets the threshold of 0.08, demonstrating a good fit (Hu & Betler, 1999). However, the Chi-square/df ratio, though approaching the recommended 3.00, slightly exceeds it at 3.0, which may require further investigation (Hair, Black, Babin, & Anderson, 2009). In general, the majority of fit indices indicate that the structural equation model exhibits a satisfactory fit to the data, with only the Chi-square/df ratio potentially suggesting the need for additional scrutiny.

Table 5. Hypothesis Testing

Structural Model				Estimate	S.E.	C.R.	P	Label
SPE	<---	ESU	-0.109	0.102	-1.069	0.285		No significant
SPE	<---	EST	0.445	0.13	3.434	***		Significant
SPE	<---	SSY	0.146	0.08	1.819	0.069		No significant
SPE	<---	PAG	0.472	0.076	6.192	***		Significant
SPE	<---	LCS	0.046	0.088	0.519	0.604		No significant
GUR	<---	PAG	0.222	0.09	2.453	0.014		Significant
GUR	<---	LCS	0.356	0.102	3.497	***		Significant

GUR	<---	SPE	0.403	0.067	6.039	***	Significant
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Level of Significance: 0.05

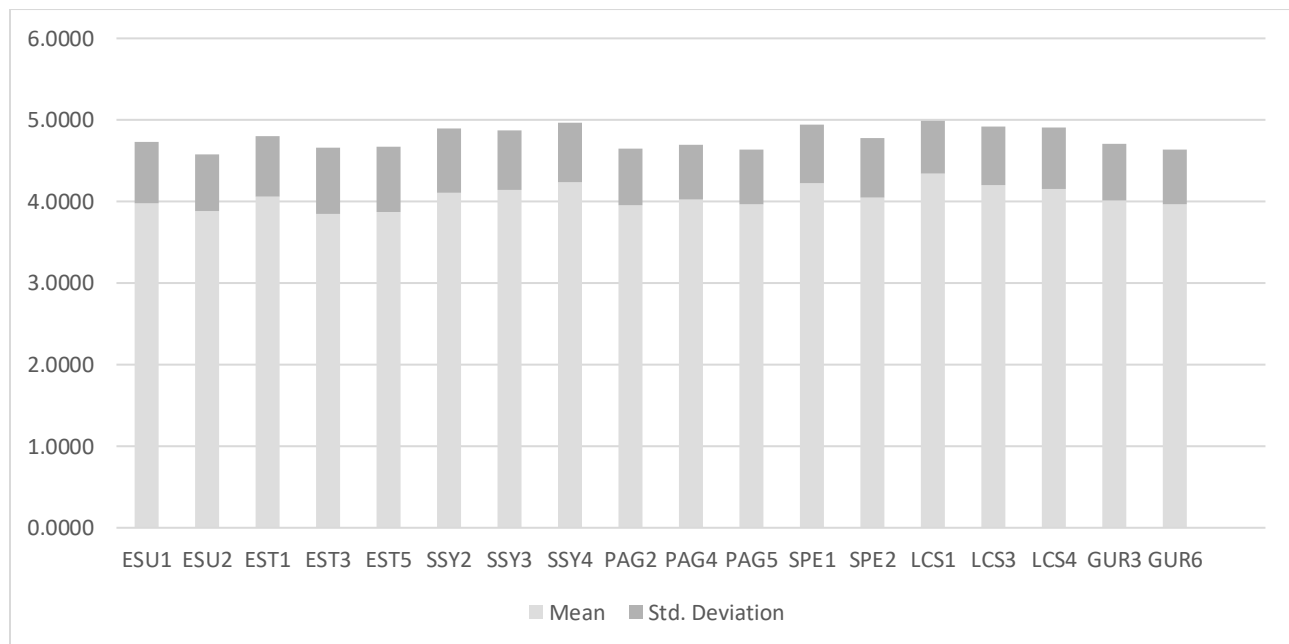


Fig 2. The Descriptive Results

Table 6. Final Instrument of the Study

CONSTRUCT and Statements	CODES
Environmental Sustainability	ESU
implements environmental management	ESU1
Implements green innovation and products	ESU2
Economic Sustainability	
implements risk management	EST1
implements supply chain management	EST3
implements corporate governance	EST5
Social Sustainability	SSY
ensures occupational health and safety	SSY2
ensures that everyone obeys the laws and regulations	SSY3
Obeys laws and regulations	SSY4
Goal 17 – Partnership to Achieve the Goals	PAG
fully operationalize the technology bank and science, technology, and innovation capacity-building mechanism	PAG2
Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships	PAG4
Enhance policy coherence for sustainable development	PAG5
Sustainability Performance	SPE
implements social well-being	SPE1
implements environmental protection	SPE2
leaders have vision and imagination	LCS1
leaders have critical analysis and judgment	LCS3
leaders have critical analysis and judgment	LCS4
Global University Ranking	GUR

Success rates between different sexes and at different levels and fields of study	GUR3
The number of events organized and courses offered promote multicultural and inclusive understanding	GUR6

V. CONCLUSION AND RECOMMENDATIONS

In conclusion, this study puts into question established theories as it unveils that the impact of environmental sustainability on overall sustainability performance lacks statistical significance. Policy interventions for sustainable development encounter obstacles such as insufficient credit and bureaucratic hurdles. Conversely, economic sustainability aligns with the principles of Corporate Social Responsibility and Sustainable Value Theory, illustrating a positive relationship with sustainability performance. However, social sustainability does not distinctly influence sustainability performance, challenging theoretical assumptions within CSR and SVT. Partnerships geared towards SDGs have a positive impact on sustainability performance, highlighting the importance of collaboration. While the direct effect of leadership competencies on sustainability performance is not evident, they do play a significant role in global university rankings, underscoring the critical importance of capable academic leadership. It is important to acknowledge that our study has limitations, as it represents only a fraction of Philippine state universities and relies on perceptions rather than empirical evidence. Expanding the scope of the study to encompass diverse environments is crucial for a comprehensive understanding of sustainability relationships in Philippine higher education.

In forthcoming research, it is advisable to expand the sample representation by incorporating a wider variety of state universities and colleges in the Philippines. By integrating empirical data collection techniques, the study's foundations would be fortified, thereby bolstering the reliability of its findings. Furthermore, delving into the eliminated statements and other elements within sustainability frameworks, engaging in long-term analyses, and undertaking multidimensional and cross-cultural comparative studies would lead to a more holistic comprehension of sustainability dynamics. It is recommended to foster interdisciplinary collaboration and assess the policy's impact in order to bridge the divide between research and practical implementation, thus facilitating more effective strategies for sustainable development in the realm of Philippine higher education.

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