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# THE EFFECT OF THE TOTAL UNDERGRADUATE STUDENTS, POSTGRADUATE STUDENTS, INTERNATIONAL STUDENTS, LECTURERS, AND INTERNATIONAL LECTURERS ON SUSTAINABILITY REPORT

**(Empirical Study on Asian Universities Registered in UI GreenMetric 2025)**

**Arifah Nur Kamila, Surya Raharja[1]**

Departemen Akuntansi Fakultas Ekonomika dan Bisnis Universitas Diponegoro
Jl.Prof. Soedharto SH Tembalang, Semarang 50239, Phone: +6282135240978

***ABSTRACT***

This study aims to determine the effect of the total undergraduate students, postgraduate students, international students, lecturers, and international lecturers on sustainability report at Asian universities listed in UI GreenMetric. The dependent variable in this study uses the Overall Score in UI GreenMetric. Meanwhile, the independent variables in this study are the of total undergraduate students, postgraduate students, international students, lecturers, and international lecturers.

The data used in this study is secondary data obtained from the UI GreenMetric World University Rankings and Quacquarelli Symonds (QS) World University Rankings websites. The final sample size used was 152 Asian universities in 2025. The sampling technique used was purposive sampling. The data analysis method in this study used multiple linear regression analysis.

The results of the study provide evidence that the total of postgraduate students and lecturers has a positive and significant effect on sustainability report, thus accepting the hypothesis. Meanwhile, the variables of the total of undergraduate students, international students, and international lecturers do not have significant effect on sustainability report.

Keywords : Total Undergraduate Students, Total Postgraduate Students, Total International Students, Total Lecturers, Total International Lecturers, Sustainability Report, Overall Score UI GreenMetric

## INTRODUCTION

Global changes and developments are driving the integration of sustainable development goals into education systems due to the role of education in promoting social, economic, and environmental sustainability (Atstāja, 2025; Beyene & Erika, 2025). In this context, educational institutions, particularly universities, are seen as strategic agents of sustainable development through education, research, and community service (Ansari, 2025; Drissi et al., 2025). The issue of sustainability in higher education has gained increasing attention over the past two decades due to its complex nature and direct impact on learning, research, governance, and social engagement (Razi, 2025; Biloslavo & Schaebs, 2025). In addition, college operational activities such as energy consumption, water usage, and waste production have a significant environmental impact. This situation encourages the implementation of more integrated sustainability practices on campus (Jaipakdee et al., 2026).

In response to these roles and impacts, universities have begun to integrate sustainability principles into their organizational culture and institutional governance. One of the main forms of implementation is sustainability report as an instrument for evaluating social and environmental performance quantitatively and qualitatively (Meutia et al., 2025). Although interest in sustainability report continues to grow, its practice remains limited due to suboptimal documentation and disclosure of sustainability information (Meutia et al., 2025). Sustainability

[1] *Corresponding author*

report plays an important role in increasing transparency and communicating sustainability achievements and programs to stakeholders (Raji & Hassan, 2021). The report can be presented in various forms, either as a standalone report, an online publication, or part of other institutional reports (Melles et al., 2022).

As the focus on sustainability increases, universities need metrics that can measure sustainability performance more comprehensively, beyond traditional academic indicators. One such measurement tool is the UI GreenMetric World University Rankings, which was initiated by the University of Indonesia in 2010. This system assesses higher education institutions' sustainability practices based on environmental, economic, and social principles using internationally recognized indicators (Sribanasarn et al., 2025). A number of studies show that UI GreenMetric has comprehensive, flexible, and relevant indicators for various country contexts (Alberti et al., 2025; Boiocchi et al., 2023). In addition to being evaluative, participation in UI GreenMetric has also been proven to encourage increased sustainability activities and publications in higher education institutions (Sari et al., 2023).

However, the relationship between internal characteristics of universities and the quality of sustainability report still shows mixed results. Theoretically, the number of students and academic staff is considered to strengthen the institution's capacity to implement sustainability programs. However, empirical findings show that institutional commitment and consistency of participation are more decisive in determining sustainability achievements than population size alone (Sari et al., 2023). Universities with large student populations often face greater operational complexity in managing their environment (Sari et al., 2021). The findings indicate that high human resource capacity does not automatically contribute positively to improving the quality of sustainability report.

In addition to the number of students, the role of graduate students, international students, lecturers, and international lecturers is also considered relevant in supporting the sustainability of higher education institutions. Graduate students and lecturers have the potential to strengthen research capacity and the integration of sustainability into academic policy. Meanwhile, internationalization through international students and lecturers can enrich global perspectives, but their contribution is highly dependent on the level of integration in institutional governance. Without clear policies and incentives, the existence of these resources may not necessarily be reflected in sustainability practices and reporting. Therefore, the influence of human resource characteristics on sustainability report needs to be examined empirically.

Referring to the above discussion, this study focuses on empirically analyzing the influence of the number of undergraduate students, graduate students, international students, lecturers, and international lecturers on sustainability report in higher education institutions in Asia using the UI GreenMetric Overall Score indicator. This study is expected to enrich the scientific literature on the phenomenon of sustainability report in the higher education sector and provide practical implications for higher education policymakers in formulating more effective and empirically-based sustainability strategies.

## THEORITICAL FRAMEWORK AND HYPHOTHESIS DEVELOPMENT

This section explains the theory used in the research, the conceptual framework that describes the relationships between the research variables, and the development of research hypotheses.

### Legitimacy Theory

Legitimacy theory explains that organizations seek to obtain and maintain social acceptance by aligning their practices and disclosures with the values, norms, and expectations of stakeholders (Suchman, 1995). In the context of higher education, legitimacy is not only related to academic quality but also to social and environmental accountability as reflected in sustainability activities and reporting. As an instrument of public communication, sustainability report enables alignment between institutional practices and community demands, thereby maintaining or

enhancing the legitimacy of institutions in the eyes of the local and global public (Findler et al., 2019).

Several literature reviews and systematic reviews highlight the role of sustainability report as a legitimacy strategy in higher education institutions (Moggi, 2023; Benvenuto et al., 2023; Abello-Romero et al., 2024). The tendency of universities to compile and publish sustainability reports is influenced by institutional factors such as organizational size, human resource capacity, and the level of internationalization. Through information disclosure, universities can demonstrate their commitment to sustainability and maintain relationships with stakeholders. This practice also contributes to building trust and reputation by affirming the university's concern for the social and environmental impacts of its activities (Sudaryati et al., 2025).

**Stakeholder Theory**

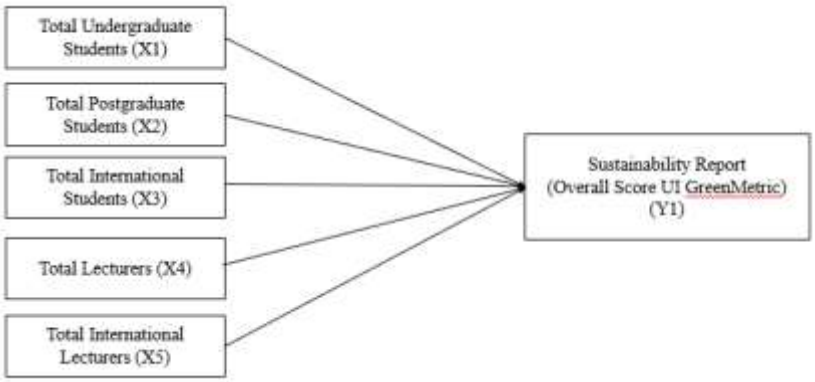
Stakeholders are groups or individuals who are affected by the organization's activities and have interests that may be fulfilled or violated by institutional decisions (Freeman, 1984). In the context of higher education, institutional leaders are seen as representatives of all stakeholders and have an obligation to communicate with them. One form of communication is through the preparation of sustainability reports as a medium for conveying institutional information (Marshall et al., 2010). Thus, sustainability report serves as a means of accountability for universities to their stakeholders.

Pressure on universities to demonstrate transparency, accountability, and commitment to sustainability continues to increase as stakeholder expectations evolve. *Sustainability report is seen as the primary mechanism for responding to these information needs*. Research shows that stakeholder engagement has a significant impact on the content and quality of sustainability reports, so that reporting is no longer merely administrative in nature. This finding is reinforced by (Lozano et al., 2019), which states that increasing demands from students, academic staff, the community, and the government are the main factors driving universities to adjust their governance and provide transparent information on sustainability performance.

**Conceptual Framework**

The conceptual framework illustrates the relationship between research variables in the form of a diagram. This study uses dependent variables and independent variables.

**Figure 1 Conceptual Framework**




**The effect of total undergraduate students on sustainability report**

From the perspective of legitimacy theory, universities seek social recognition by demonstrating their commitment to sustainability through indicators measured by UI GreenMetric. The increase in student numbers requires universities to be more transparent in managing energy, water, transport, and campus waste. Research (Sudaryati et al., 2025) shows that the involvement of higher education institutions in UI GreenMetric and university size, including student enrolment, are related to reported sustainability performance, especially in Asia. These findings are reinforced by

(Alberti et al., 2025), which confirms that the number of students as key stakeholders plays an important role in promoting campus sustainability practices. Therefore, these findings reinforce the hypothesis that the number of students has a positive impact on sustainability report.

**H1:** The total of undergraduate students has a negative influence on sustainability report.

**The effect of total postgraduate students on sustainability report**

The number of postgraduate students reflects the academic and research capacity of higher education institutions in supporting the sustainability agenda. The greater the number of postgraduate students, the higher the demands for transparency and accountability of institutions in disclosing their sustainability performance. Therefore, the number of postgraduate students is seen as one of the factors that can influence the practice and quality of sustainability report in higher education institutions.

(Findler et al., 2019) emphasise that higher education institutions play a major role in the transition to sustainability, particularly through research and innovation that involves many postgraduate students. In line with this, (Sonetti et al., 2019) show that student involvement, including postgraduate students, in campus sustainability strategies is directly related to the performance of higher education institutions in global rankings such as UI GreenMetric. These findings reinforce the understanding that the number of postgraduate students has a positive effect on sustainability report.

**H2:** The total of postgraduate students has a positive influence on sustainability report.

**The effect of international students on sustainability report**

The presence of international students in higher education institutions is an important factor in expanding the legitimacy of these institutions. Their presence not only increases the campus population, but also strengthens public expectations for transparency and accountability in sustainability. (Hsiao et al., 2026) show that institutional pressure and resource dependence encourage universities to adopt sustainability performance indicators in their official reports. The presence of international students increases the need for universities to demonstrate their commitment to sustainability through UI GreenMetric as a means of global legitimacy.

(Smolennikov et al., 2024) found a positive correlation between higher education institutions' UI GreenMetric and national sustainability indicators, including the achievement of SDG 7 (Affordable and Clean Energy). International students, as part of global mobility, play a role in strengthening higher education institutions' contributions to the sustainability agenda through research, energy, resource efficiency, and cross-cultural engagement. These findings reinforce the hypothesis that the number of international students has a positive effect on sustainability report.

**H3:** The total of international students has a negative influence on sustainability report.

**The effect of total lecturers on sustainability report**

The number of lecturers at a university is an important factor in supporting legitimacy and accountability for sustainability. Lecturers not only play a role in education, but also contribute significantly to research and community empowerment, which are at the core of the education and research indicators in UI GreenMetric. (Mo & Wang, 2023) emphasise that the quality of ESG reporting in universities is more influenced by the number of academic staff than the number of students. This indicates that the more lecturers there are, the greater the capacity of the university to produce research, publications, and academic activities that support the UI GreenMetric score.

(Leal Filho et al., 2025) emphasise that sustainability report in higher education institutions is highly dependent on the involvement of academic staff in managing data, compiling reports, and integrating SDGs into the curriculum. With an adequate number of lecturers, universities can be more consistent in compiling sustainability reports, increasing transparency, and strengthening their position in the UI GreenMetric ranking. In line with this, (Manik & Syafrina, 2018) and (Wahyudi, 2020) show that lecturer competence and performance contribute directly to higher education institution accreditation and reputation. These findings reinforce the hypothesis that the number of lecturers has a significant effect on the UI GreenMetric score.

**H4**: The total of lecturers has a positive influence on sustainability report.

**The effect of international lecturers on sustainability report**

The presence of international lecturers at universities often serves as an indicator of an institution's openness to global standards. Lecturers from abroad bring new perspectives, best practices, and cross-border research networks that can strengthen the education and research indicators in UI GreenMetric. A study (Leal Filho et al., 2022) emphasises that the success of higher education institutions in implementing sustainability report is highly dependent on the active involvement of academic staff in integrating sustainable development goals into the curriculum and research. International lecturers, with their cross-cultural experience and access to global networks, can strengthen higher education institutions' contributions to the sustainability agenda while enhancing the institution's reputation in international rankings. Thus, the hypothesis that can be formulated is that the number of international lecturers has a positive effect on sustainability report, as they act as a link between higher education institutions and the global academic community on sustainability issues.

**H5**: The total of international lecturers has a negative influence on sustainability report.

## RESEARCH METHODOLOGY

**Dependent Variable**

Bound variable or dependent variable is a variable whose value is influenced by the independent variable. The dependent variable used in this study is sustainability report. Measurement of sustainability report will use overall score UI GreenMetric.

The UI GreenMetric World University Rankings is an international ranking system used to assess the sustainability of universities based on the concept of green campuses (Alalawi & Omar, 2024). UI GreenMetric is used as a dependent variable that represents the sustainability performance of universities. This variable is measured using the 2025 UI GreenMetric Overall Score.

**Independent Variable**

The independent variable is one that affects the dependent variable either positively or negatively. The independent variable in this study is the number of undergraduates, postgraduates, international students, lecturers, and international lecturers.

**Total Undergraduate Students**

The number of students is an independent variable that reflects the size of the student population at a university. In this study, the number of students is defined as the total number of active students enrolled at a university in a given academic year. The measurement of the number of students variable is based on official data on the number of active students published online by QS World Rankings.

**Total Postgraduate Students**

The variable of postgraduate student numbers in this study refers to the number of active students currently enrolled in postgraduate education at a university. Data on postgraduate student numbers was obtained from the QS World Rankings website.

**Total International Students**

The number of international students in this study is defined as the total number of officially registered foreign students who actively participate in a higher education institution. The presence of international students reflects the level of openness and attractiveness of higher education institutions in a global context. This variable is measured by calculating the number of active international students based on official data published by QS World Rankings.

**Total Lecturers**

The number of lecturers at a university is the most influential factor on the quality of sustainability reports, surpassing other factors (Mo & Wang, 2023). The variable of the number of lecturers indicates the total number of educators who play an active role in conducting academic activities at a university. Information on the number of lecturers is obtained from official data published online by QS World Rankings.

**Total International Lecturers**

The number of international lecturers is a strategic indicator that reflects the level of internationalisation of higher education institutions. The presence of lecturers from various countries enriches academic perspectives, encourages a more inclusive curriculum, and increases the capacity for cross-border research relevant to sustainability issues (Blasco et al., 2021). The international lecturer variable indicates the number of foreign educators who are actively involved in academic activities at a university. Data on the number of international lecturers is obtained from the QS World Rankings website.

**Population and Sampling Determination**

The population in this study includes all universities in the Asian region that are included in the UI GreenMetric World University Rankings and Quacquarelli Symonds (QS) World University Rankings in 2025. The sample was then determined using purposive sampling with reference to the following criteria:

1. Univerisites that are officially go public in the UI GreenMetric World University Rankings in 2025.
2. Univerisites that are officially go public in the Quacquarelli Symonds (QS) World University Rankings in 2025.
3. Higher education with complete data (number of students, number of postgraduate students, number of international students, number of lecturers, and number of international lecturers) in the Quacquarelli Symonds (QS) World University Rankings in 2025.

**Data Analysis Technique**

To prove the proposed hypothesis, this study uses multiple linear regression analysis. This method is applied to identify the effect and direction of the relationship of each independent variable on the dependent variable.

## RESULTS AND DISCUSSIONS

**Research Objects and Data Description**

Based on the purposive sampling method, it was found 156 universities as sample in this study with the following description :

**Table 1**
**Research Sample**

| Criteria | Total |
|---|---|
| Asian Universities Go Public in UI GreenMetric 2025 | 1061 |
| Asian universities that do not have complete data (number of students, number of postgraduate students, number of international students, number of lecturers, and number of international lecturers) on the Quacquarelli Symonds (QS) World University Rankings website in 2025. | (905) |
| Outlier | 4 |
| Total Research Sample | 152 |

**Descriptive Statistical Analysis**

The following results from the descriptive statistical analysis test are shown in the table below:

Table 2

| Descriptive Statistics | | | | | |
|---|---|---|---|---|---|
| | **N** | **Minimum** | **Maximum** | **Mean** | **Std. Deviation** |
| Undergraduate | 152 | 2028 | 41918 | 16903.55 | 10321.889 |
| Postgraduate | 152 | 122 | 13699 | 2672.11 | 2785.219 |
| International Students | 152 | 4 | 11226 | 1154.22 | 1824.928 |
| Lecturers | 152 | 90 | 5369 | 1297.95 | 1140.126 |
| International Lecturers | 152 | 2 | 3222 | 218.93 | 415.600 |
| Overall Score | 152 | 1410.0 | 9262.5 | 7003.503 | 1748.6371 |
| Valid N (listwise) | 152 | | | | |

Source : Secondary data, processed 2026

Based on table 2, it is known that the number of observations (N) in the entire research sample was 152 universities in Asia listed in the 2025 UI GreenMetric.

The variable for the number of students has an average value of 16,903.55 and a standard deviation of 10,321.889. Almaarefa University has the lowest number of students with a total of 2,028 students, while Imam Mohammad Ibn Saud Islamic University has the highest number of students with a total of 41,918 students. The relatively large standard deviation value indicates a fairly high variation in the number of students between universities, reflecting differences in the scale of institutions from small to large universities.

The variable for postgraduate students yielded a statistical average of 2672.11 with a standard deviation of 2785.219. The Asian university with the lowest number of postgraduate students was Almaarefa University with 122 postgraduate students. Northeastern University had the highest number of postgraduate students with a total of 13,699.

The international student variable produced an average value of 1154.22 and a standard deviation of 1824.928. The minimum value for international students was recorded by the University of Kerbala with 4 international students, while the maximum value was recorded by Northeastern University with 11,226 international students.

The lecturer variable has a statistical mean of 1297.95 and a standard deviation of 1140.126. Kazakhstan-American Free University has a minimum value for the lecturer variable of 90, while the University of Indonesia achieved a maximum value of 5,369.

The international lecturer variable obtained an average result of 218.93 and a standard deviation of 415.600. The National Institute of Technology Silchar had the lowest number of international lecturers with a total of 2, while King Khalid University had the highest number of international lecturers with a total of 3,222.

The sustainability report variable, with the UI GreenMetric Overall Score as the basis for measurement, obtained an average of 7003.503 and a standard deviation of 1748.6371. The University of Indonesia achieved a maximum score of 9262.5, while the Kazakhstan-American Free University had a minimum score of 1410.0.

**Normality Test**

Table 3

| One-Sample Kolmogorov-Smirnov Test | | |
|---|---|---|
| | | Unstandarized Residual |
| N | | 152 |
| Normal Parameters[a,b] | Mean | 0E-7 |
| | Std. Deviation | 1616.61453281 |
| Most Extreme Differences | Absolute | .105 |
| | Positive | .077 |
| | Negative | -.105 |
| Kolmogorov-Smirnov Z | | 1.295 |
| Asymp. Sig. (2-tailed) | | .070 |
| a. Test distribution is Normal | | |
| b. Calculated from data | | |

Source : Secondary data, processed 2026

Based on table 3, the significance value or Asymptotic Sig. (2-tailed) is 0.070, and it can be concluded that the residual data is normally distributed.

**Multicollinearity Test**

Table 4 shows the VIF values (<0.10) and tolerance values (>0.10) for each variable, indicating the absence of multicollinearity.

Table 4

| Model | | Collinearity Statistics | |
|---|---|---|---|
| | | Tolerance | VIF |
| 1 | Mahasiswa | .463 | 2.158 |
| | Pascasarjana | .478 | 2.092 |
| | Mahasiswa Internasional | .709 | 1.411 |
| | Dosen | .257 | 3.893 |
| | Dosen Internasional | .413 | 2.424 |

a. Dependent Variable: Overall Score

Source : Secondary data, processed 2026

**Cofficient Determination (Adjusted $R^2$) Test**

Based on table 5, the adjusted R2 value is 0.116. This indicates that the dependent variable can be represented by 11.6% of the variation in the independent variables.

Table 5

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .381[a] | .145 | .116 | 1644.0633 |

a. Predictors: (Constant), Mahasiswa, Mahasiswa Pascsarjana, Mahasiswa Internasional, Dosen, Dosen Internasional

b. Dependent Variable: Overall Score

**F Statistic Test**

Based on table 6, testing the significance of the model as a whole produced an Fcount value of 4.964 and a p-value of 0.000b. This significance value (<0.05) means that H0 is rejected and H1 is accepted. Thus, these findings prove that all independent variables have a significant effect on the dependent variable.

Table 6

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 67087641.05 | 5 | 13417528.21 | 4.964 | .000[b] |
| | Residual | 394629824.7 | 146 | 2702944.005 | | |
| | Total | 461717465.7 | 151 | | | |

a. Dependent Variable: Overall Score

b. Predictors: (Constant), Mahasiswa, Mahasiswa Pascsarjana, Mahasiswa Internasional, Dosen, Dosen Internasional

**T Statistic Test**

The following are the findings of the T-test conducted in this study. The results of the test are shown in table 7 below.

Table 7

| Model | | Unstandardized Coefficients | | Standardized C | | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 6590.800 | 264.790 | | 24.891 | .000 |
| | Mahasiswa | -.036 | .019 | -.212 | -1.886 | .061 |
| | Mahasiswa Pascsarjana | .164 | .069 | .262 | 2.367 | .019 |
| | Mahasiswa Internasional | -.102 | .087 | -.106 | -1.171 | .243 |
| | Dosen | .734 | .232 | .478 | 3.169 | .002 |
| | Dosen Internasional | -1.161 | .501 | -.276 | -2.317 | .022 |

a. Dependent Variable: Overall Score

The results of testing the hypothesis regarding the effect of student numbers on sustainability report show that the variable of student numbers has a significance level of with a regression coefficient (β) of -0.036, thus rejecting H1. Empirically, these findings indicate that a large number of students does not necessarily encourage an improvement in the quality of sustainability report, because the legitimacy of an institution is determined more by the sustainability policies and strategies that are actually implemented, rather than solely by the size of the student population. In addition, although students are key stakeholders in higher education, an increase in their numbers does not automatically increase pressure on management to expand sustainability disclosure. The results of this study do not support the findings of Fonseca et al. (2011) and Jorge et al. (2014), which state that larger institutions tend to be more active in sustainability disclosure. However, these results are in line with the research by Lozano et al. (2019), which shows that the size of an institution, including the number of students, does not always influence sustainability report.

The results of the second hypothesis test show that the number of postgraduate students has a regression coefficient (β) of 0.164 with a significance level of 0.019 (<0.05), so H2 is accepted. This finding proves that the number of postgraduate students has a positive and significant effect on sustainability report, which means that an increase in the number of postgraduate students encourages an improvement in the quality of sustainability report. From the perspective of legitimacy theory, the research and publication activities of postgraduate students strengthen the institution's efforts to gain public recognition, especially since education and research are important components in the UI GreenMetric World University Rankings assessment. From a stakeholder theory perspective, postgraduate students are strategic stakeholders who contribute through active involvement in research oriented towards sustainable development. However, these results are not in line with Kalinowski (2025), who states that sustainability report is more influenced by institutional policies and management commitment.

The results of the third hypothesis test show that the number of international students has a regression coefficient (β) of -0.102 with a significance level of 0.243 (>0.05), so H3 is rejected. This finding indicates that the number of international students does not have a significant effect on sustainability report. Theoretically, although legitimacy theory views the presence of international students as encouraging institutions to improve their sustainability performance in order to gain global recognition, empirical results show that this factor has not become a major driver in sustainability report practices. These results are in line with the research by Leal Filho et al. (2022), which states that sustainability report in higher education institutions is more influenced by institutional policies and management commitment than by student demographic characteristics, including international students.

The results of the fourth hypothesis test show that the number of lecturers has a regression coefficient (β) of 0.734 with a significance level of 0.002 (<0.05), so H4 is accepted. This finding

proves that the number of lecturers has a positive and significant effect on sustainability report, which means that the more lecturers a university has, the greater the institution's capacity to develop and report sustainability programmes systematically. From a stakeholder theory perspective, lecturers are internal stakeholders who play a strategic role through their contributions to research, curriculum development, and the integration of sustainability issues. Meanwhile, legitimacy theory emphasises that institutions strive to align their practices and disclosures with public expectations in order to maintain social legitimacy. These results are in line with the research by Abello-Romero et al. (2024), which states that universities with greater internal resources, including the number of lecturers, tend to be better able to meet the demands of sustainability report.

The results of the fifth hypothesis test show that the number of international lecturers has a regression coefficient (β) of -1.161 with a significance level of 0.022 (<0.05). Although statistically significant, the negative direction of the coefficient does not match the proposed hypothesis, so H5 is rejected. This finding indicates that the presence of international lecturers does not have a positive effect on sustainability report, but rather shows an opposite relationship. Theoretically, from the perspective of legitimacy theory, sustainability report is more influenced by institutional capacity and regulatory requirements than by the characteristics of specific lecturer groups, so that the number of international lecturers has not created sufficient legitimacy pressure. These results do not support the research by Findler et al. (2019), which emphasises that internationalisation can strengthen sustainability practices, thus indicating that internationalisation is not always reflected in the number of international lecturers, but rather through strategic policies and the integration of sustainability values into institutional governance.

## CONCLUSION AND LIMITATION

This section contains the research conclusions, limitations of the research, and suggestions for future research.

### Conclusion

Based on the results of testing all hypotheses, it can be concluded that not all characteristics of higher education resources influence sustainability report. The number of students and the number of international students have been proven to have no significant influence, so an increase in the number of students does not necessarily lead to an improvement in the quality of sustainability report. Conversely, the number of postgraduate students and the number of lecturers show a positive and significant influence on sustainability report, indicating that academic capacity and research activities play an important role in strengthening sustainability report performance. Meanwhile, the number of international lecturers shows a significant negative influence, thus not supporting the proposed hypothesis. Overall, these findings confirm that sustainability report in higher education institutions is more influenced by the strength of internal academic resources and institutional capacity than by quantitative aspects or internationalisation alone.

### Limitation

This research found several limitations, including:

1. The limited observation period in this study means that the results obtained do not fully describe the development of sustainability report practices in the long term.
2. This research utilises secondary data obtained from official websites, so the analysis results are highly dependent on the completeness and accuracy of the information provided by each university.

### Suggestion for Future Research

In light of these limitations, several recommendations can be made for future research:

1. Further research is recommended to consider the addition of other variables that could potentially influence sustainability report, such as leadership commitment, internal university policies, organisational culture, and the availability of financial resources, so that the research results obtained can be more comprehensive.

2. Future research should use a longer observation period in order to more accurately describe the development of sustainability report practices and reflect long-term conditions.

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