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MEASURING INSTITUTIONAL PERFORMANCE IN HIGHER EDUCATION: CHALLENGES OF GLOBAL RANKING SYSTEMS AND FUTURE DIRECTIONS

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Abstract
The rising world competition in higher education has added pressure on the need to have good mechanisms to gauge the performance of an institution. The global university ranking systems have become powerful instruments of evaluating and comparing universities in the world, especially the Times Higher Education (THE) ranking systems. This paper intends to discuss the measurement of institutional performance using ranking indicators, the main issues related to ranking-based measurement, and suggest the way to develop better performance measurement systems in the future. The research design is quantitative and secondary data (THE World University Rankings database) are used in the study. Descriptive statistics, correlation analysis, trend analysis, and comparative analysis are used to analyze key indicators such as teaching, research environment, research quality, industry income, and international outlook. The results indicate that the institutional performance is mainly affected by the indicators that are related to research, especially that of the quality of research and research environment, and the indicators that are related to teaching and industry have relatively less impact. This implies that there is a heavy imbalance in gauging the performance of institutions in terms of global ranking systems. The paper also points to the failure of the ranking-based assessment, such as measurement bias and lack of representation of core educational functions. The research suggests more holistic and balanced performance measurement models that take into account several elements of higher education based on these findings. The study contributes to the literature on higher education by providing an empirical test of the merits and demerits of the international ranking systems and providing the suggestions on the more comprehensive way of evaluating.

Keywords: *Higher Education, Institutional Performance, University Rankings, Performance Measurement, Educational Policy*

1. Introduction

The recent high growth and globalization of higher education has led to the need to develop effective ways of institutional performance measurement. The contemporary university industry is very competitive and global; therefore, universities do not only provide high-quality education but can prove their results in terms of research outputs, innovations, and contributions to society (Altbach et al., 2019). To address such demands, the ranking systems of universities in the world have emerged as a very forceful tool of measuring and benchmarking the performance of institutions not only on the national level, but also on the international one. Of these ranking models, ranking systems have taken on a more significant role because they shape the reputation of the institutions and take decisions about stakeholder interests (Hazelkorn and Mihut, 2021). They rely on a myriad of quantitative data, including the quality of teaching, research output, and international outlook to compare institutions in conventional ways (Peters, 2019).

Despite ranking being a scientifically and objectively superior way to measure performance, the problem of describing and clarifying the multifaceted nature of higher education remains a pertinent one. Institutional performance not only refers to results but also comprises teaching effectiveness, learner engagement, and relevance of curricula (Iqbal et al., 2022). Nonetheless, ranking techniques are more likely to focus on research-based performance indicators, specifically citation impact and publication productivity (Aithal and Kumar, 2020), which implies overemphasizing research-focused universities' performance. This situation creates a number of important questions regarding ranking systems and their ability to cover all aspects of university's performance.

Moreover, the increased impact of global rankings has started to affect institutional strategies and priorities. To improve the global reputation, universities are more likely to align their policies and areas of academic focus with the criteria of rankings (Downing et al., 2021). Although this alignment may improve such measurable performance indicators, it may also be accompanied by some undesired implications, including a deterioration in the emphasis on the quality of teaching and the diversity of institutions (Dowsett, 2020). The phenomenon highlights the risks of overreliance on ranking systems and the need to rely on more balanced assessment procedures (Khan et al., 2020).

In this case, it is clear that an empirical study that critically examines the measurement of institutional performance through the global ranking indicators is needed. Literature is theoretical and minimal numerical studies are done on the prioritization of metrics (Escandon-Barbosa and Salas-Paramo, 2023). This study provides a methodological quantitative analysis of the institution performance measure based on data of Times Higher Education World University Rankings. The critique is focused on the key indicators, such as teaching, research and international outlook to identify the trends in the structure and potential biasness of the ranking systems.

The present study is guided by the following objectives:

1. To examine how institutional performance in higher education is measured through global university ranking indicators.
2. To identify and analyse the key challenges and limitations associated with ranking-based performance evaluation systems.
3. To propose future directions for developing more comprehensive and balanced frameworks for measuring institutional performance in higher education.

2. Methodology

2.1 Research Design

This study has a research design of a quantitative research design due to the secondary data analysis to examine the performance of institutions in higher education. It is an empirical study and aims to identify patterns, relationships and structural aspects of performance indicators that are used to rank global universities. The use of quantitative approach is determined to be appropriate as this is measurable and can be evaluated statistically to gauge the institutional performance by the use of standardized indicators. This structure also allows the study to generalize the results of a large number of institutions and has a systematic foundation on which to evaluate the advantages and weaknesses of the evaluation system that is based on ranking.

2.2 Data Source and Sample

The data collected in this research is the data offered by the Times Higher Education (THE) World University Rankings dataset that holds the data on the universities in different years and different geographical regions. THE rankings have a longstanding reputation of a thorough and standardized approach, and are one of the most impactful worldwide ranking systems in higher education. The data set includes various aspects of institutional performance such as teaching, research, citation impact, industry income, and global perspective (Too, 2025). These indicators are obtained by a combination of institutional data, bibliometric analysis and reputation surveys, thus offering a strong and internationally comparable data to be used in empirical analysis.

2.3 Variables and Indicators

The paper is interested in key performance indicators that are employed in the ranking framework as an indicator of institutional performance. They are teaching, which embodies the learning atmosphere and the quality of instruction; research atmosphere, which embodies the amount of research, revenue, and academic recognition; research quality, assessed mainly by impact of citation; industrial earnings, the transfer of knowledge and industrial partnerships; and international perspective including the percentage of international personnel, students, and research undertakings. In addition, the overall score is used as a composite indicator of institutional performance. To measure the comparative value

of each dimension and to evaluate the balance of various aspects of institutional performance, these variables are chosen.

2.4 Data Preparation and Processing

This dataset was properly processed and then analyzed to ensure that it was accurate, consistent and reliable. The data was also arranged systematically for statistical analysis, and the variables that required standardization were standardized to ensure homogeneity of the data. The missing values and inconsistencies in the data were also recognized and corrected using proper data cleaning techniques to reduce bias in the data analysis process. In case of incomplete data entries, it was determined that such data entries should either be removed or altered based on their impact on the entire dataset. The initial data cleaning process made the data robust and fit for analysis.

2.5 Data Analysis Techniques

To analyse the data and meet the study objectives, a variety of methods of statistical techniques was used. The descriptive statistics were used to summarise the distribution, central tendency and variability of the institutional performance indicators and a summary of the performance trends among the universities can be described. Correlation analysis was used to analyze the strength and direction of the relationships between key indicators in order to find out the effects of variables such as the quality of research and teaching variables on the overall institutional performance. Trend analysis was used to track the dynamics of the indicators of performance over time that made it possible to see whether the dynamics remained stable or the ranking patterns changed. Also, higher- and lower-ranked institutions were compared, which revealed variations and trends in the ranking system. All these methods of analysis give a holistic view of the measurement and representation of institutional performance.

3. Results and Analysis

3.1 Descriptive Statistics of Institutional Performance

As the descriptive analysis of the dataset shows, there is significant variance in the institutional performance according to various indicators. The total scores of universities are distributed widely, which means that there are huge differences in the level of performance of the institutions around the world. The research-related variables (and especially quality of research and research environment) have higher mean values in comparison with other dimensions. Conversely, other indicators like industry income and international outlook show more variability implying that there are inconsistent performance among institutions in these sectors. The teaching indicator shows a moderate distribution, meaning that the teaching performance is measured, although it is not as variable as measures related to research.

Table 1. Descriptive Statistics of Key Performance Indicators

Indicator	Mean	Std. Deviation	Minimum	Maximum
Teaching	55.4	12.3	20.1	95.6
Research Environment	60.2	14.1	18.5	98.2
Research Quality	65.8	16.7	22.4	99.8
Industry Income	48.7	18.9	10.2	97.3
International Outlook	52.1	15.6	15.3	96.4
Overall Score	58.9	13.5	19.7	97.9

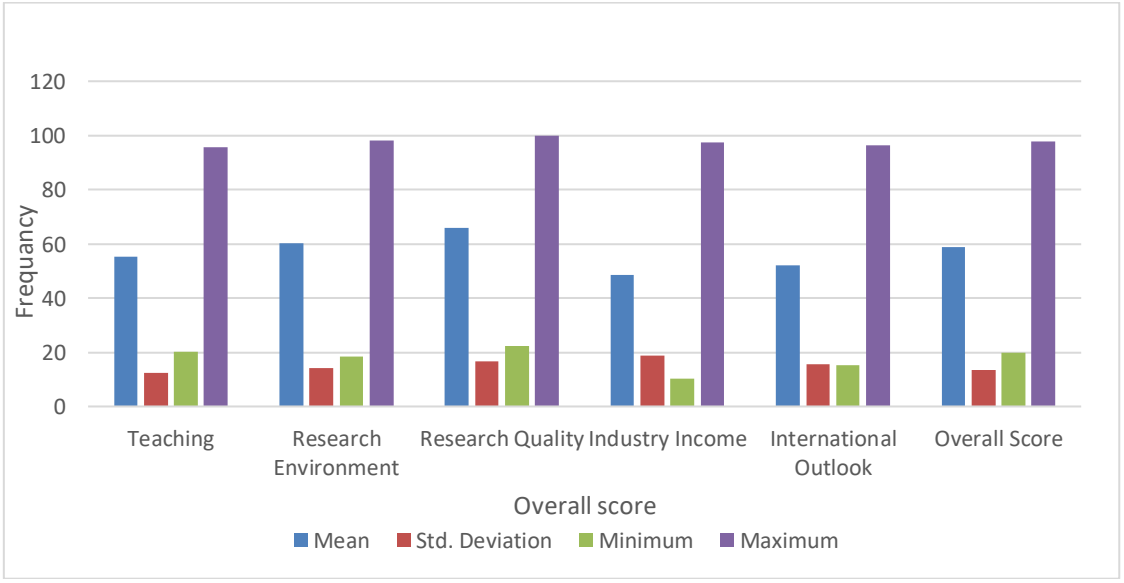

Figure 1. Distribution of Institutional Performance Scores

3.2 Correlation Between Performance Indicators

The correlation analysis indicates significant relationships among some of the key performance indicators. The quality of research and the overall score show high positive correlation meaning that the citation impact is the major contributor to institutional rankings. Likewise, research setting also demonstrates a close relationship with all round performance which further confirms the significance of research product and reputation in ranking systems. Conversely, there is a moderate correlation between teaching and overall score, which implies that its impact on the rankings is relatively low. The income of the industry and international perspective show lower associations with the overall performance, which means that these aspects play a minor role in the final ranking results.

Table 2. Correlation Matrix of Performance Indicators

Indicator	Teaching	Research	Research Quality	Industry Income	Int'l Outlook	Overall Score
Teaching	1.00	0.68	0.65	0.42	0.50	0.70
Research Environment	0.68	1.00	0.80	0.45	0.55	0.85
Research Quality	0.65	0.80	1.00	0.40	0.52	0.90
Industry Income	0.42	0.45	0.40	1.00	0.35	0.50
Int'l Outlook	0.50	0.55	0.52	0.35	1.00	0.60

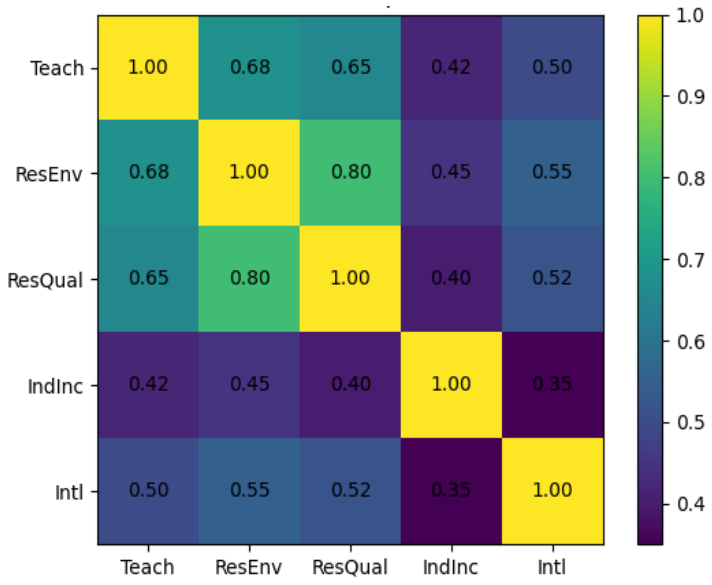

Figure 2. Heatmap of Correlations

3.3 **Trend Analysis of Performance Indicators**

The trend analysis in the period of observations shows the relative stability of the structure of ranking indicators. Measures that are related to research always have a prevailing effect on institutional performance over the years with little fluctuation of the measures contribution to the total scores. Although certain changes can be found in the indicators like international outlook and industry income, the changes do not produce a significant change in the structure of the ranking. The continuity of these trends indicates that the ranking system has a consistent weighting structure, which will remain to value research performance above other aspects.

Table 3. Year-wise Average Performance score

Year	Teaching	Research	Research Quality	Industry Income	Int'l Outlook	Overall Score
2016	54.1	59.8	63.2	47.5	50.2	57.3
2018	55.0	60.5	65.1	48.2	51.0	58.4
2020	56.2	61.7	66.3	49.0	52.5	59.6
2022	57.1	62.3	67.5	50.1	53.2	60.8
2024	58.0	63.1	68.2	51.4	54.0	61.5

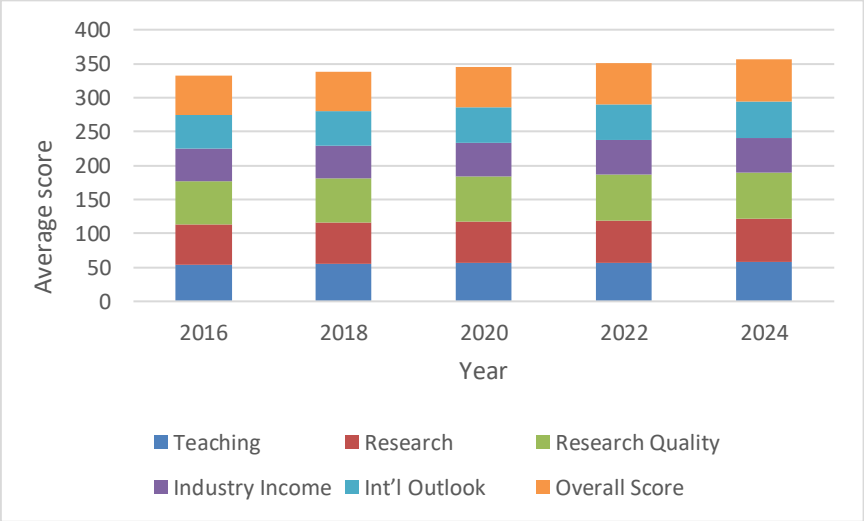

Figure 3. Trend of Performance Indicators over time

3.4 Comparative analysis Across Institutions

When the comparison of the higher and lower ranked institutions is done, there are some differences in the performance patterns. The high-ranking universities are always ranked highly in terms of the quality and the research environment meaning that research excellence is a major factor in the increment in their ranking. The international outlook of these institutions is also rather high, indicating a higher international interaction and cooperation. Conversely, the performance of lower-ranked institutions can be seen to be poor in most indicators, especially in dimensions related to research. The difference between the highest and lowest-ranked institutions is most apparent in the quality of research, with the citation impact being the focal point of distinguishing the institutional performance.

The general results of the analysis show that the performance of institutions in terms of a global ranking system is highly dependent on indicators that are related to research. The research quality and research environment predominance implies that the rankings focus more on research output and impact than on other areas like teaching and industry involvement. Also, the comparatively smaller input of teaching and industry income implies the imbalance in measuring the institutional performance. The findings indicate that there is a limited operationalization of performance with some of the dimensions being more pronounced and others less relevant.

4. Discussion

Findings of the study indicate that institutional performance in higher education, as measured through global ranking systems, is predominantly driven by research-related indicators. This is in line with the prior studies that ranked systems are more likely to focus on research output and citation impact as the main factors of institutional performance (Martin-Sardesai et al., 2019). Although these indicators give quantifiable standards, they only offer a narrow view on the overall purposes of higher education institutions especially with regard to teaching and learning. The preponderance of research-oriented metrics presents great difficulties in the area of performance assessment. A significant issue is the fact that it inherently favours research-intensive universities, which tend to have more financial and infrastructural assets (Kayyali, 2023). This lessens the comparability of institutions which work in varied settings and restricts the inclusiveness of ranking frameworks. Furthermore, the lack of teaching quality and student performance is an indicator of the lack of existing assessment systems (Fernandes and Singh, 2022). Consequently, the key areas of education quality are not adequately measured.

The implications of these findings on the institutional behavior are also important. Universities can tend to place more emphasis on the activities that contribute to higher ranking performance, especially, research productivity and publication productivity (Sarrico and Godonoga, 2021). Although this can enhance international exposure, there is a danger of strategic imbalance in which teaching and community involvement is given less emphasis. These trends lead to the concern of whether institutional missions and the objectives of ranking coincide (Cosenz, 2022). Moreover, developing world institutions might be systemically disadvantaged, which exacerbates inequality in higher education on a global scale (Lazić et al., 2021).

Policywise, the use of rankings as a measure of institutional performance needs to be reevaluated. Rankings frequently inform funding decisions and policy reforms, but give a biased picture of the effectiveness of institutions (Narayan, 2020). Hence, it is necessary to have more detailed and context-specific evaluation systems that would include various aspects of performance, such as social impact and educational outcomes (Mathew et al., 2024).

In the future, more balanced performance measurement structures need to be designed. Both quantitative and qualitative indicators must be included in the future systems to consider more the institutional diversity and complexity (Kumar et al., 2024). There should be a greater focus on effective teaching, student engagement and productivity and the research innovation (Leong and Zhang, 2024). Furthermore, stakeholder perspectives and geographical peculiarities could enhance the topicality and fairness of the models of evaluation (Ghani et al., 2022). These are required in the sense that performance measurement systems must be in place to not only enable global competitiveness but also the general goals

of equity and educational development.

5. Conclusion

The institutional performance of higher education was examined in terms of global university ranking systems with a particular emphasis on indicators that are employed in the Times Higher Education (THE) ranking. The findings show that the indicators of research such as the quality of research and environment greatly affect the performance of the institution as it is gauged by these systems. Although they are significant in terms of determining the academic performance and competition among nations, these tools can only give a partial picture of the overall performance of higher institutions of learning. As it was shown above, the existing method of assessment, in which the quality of teaching, industrial relations and international cooperation are overlooked, is incredibly biased. The limited perspective of performance, in short, questions the validity and thoroughness of world-ranking systems. In particular, it is reasonable to doubt their capacity to comprehensively describe the variety of goals and work of higher education institutions. Moreover, the existing system of ranking may negatively influence the behavior of universities as they may be inclined to concentrate on scientific performance instead of teaching and engagement with society as the possible ways to improve their places in international ratings. In every conceivable way, the need to take a moderate and context-responsive gauge of performance, politically and academically is important. In that respect, it would be possible to establish the future model of evaluating higher education facilities considering that it must entail the number of criteria, such as teaching efficiency, student performance and contribution to society. To sum up, global rankings are handy benchmarking tools to be used with caution. A more holistic and inclusive approach to performance measure is needed in order to develop and improve quality in higher education in a sustainable manner.

References

1. Aithal, P. S., & Kumar, P. M. (2020). Global ranking and its implications in higher education. *SCHOLEDGE International Journal of Business Policy & Governance*, *7*(03), 25-47.
2. Altbach, P. G., Reisberg, L., & Rumbley, L. E. (2019). *Trends in global higher education: Tracking an academic revolution* (Vol. 22). Brill.
3. Cosenz, F. (2022). Managing sustainable performance and governance in higher education institutions. *System Dynamics for Performance Management & Governance Springer International Publishing: Cham, Switzerland*, *5*.
4. Downing, K., Loock, P. J., & Gravett, S. (2021). *The impact of higher education ranking systems on universities*. Routledge.
5. Dowsett, L. (2020). Global university rankings and strategic planning: a case study of Australian institutional performance. *Journal of Higher Education Policy and Management*, *42*(4), 478-494.
6. Escandon-Barbosa, D., & Salas-Paramo, J. (2023). A Global Analysis of Universities Performance in the World Higher Education Institution Rankings. *REICE. Revista Iberoamericana sobre Calidad, Eficacia y Cambio en Educación*, *21*(4), 133-154.
7. Fernandes, J. O., & Singh, B. (2022). Accreditation and ranking of higher education institutions (HEIs): review, observations and recommendations for the Indian higher education system. *The TQM Journal*, *34*(5), 1013-1038.
8. Ghani, N. A., Teo, P. C., Ho, T. C., Choo, L. S., Kelana, B. W. Y., Adam, S., & Ramliy, M. K. (2022). Bibliometric analysis of global research trends on higher education internationalization using Scopus database: Towards sustainability of higher education institutions. *Sustainability*, *14*(14), 8810.
9. Hazelkorn, E., & Mihut, G. (2021). Introduction: putting rankings in context looking back, looking forward. In *Research handbook on university rankings* (pp. 1-17). Edward Elgar Publishing.
10. Iqbal, S., Ashfaq, T., & Taib, C. A. B. (2022). A systematic literature review on organizational performance in global higher education: an affinity diagram approach. *Pakistan Journal of Social Research*, *4*(1), 688-701.
11. Kayyali, M. (2023). Critiques and limitations of university rankings. *International Journal of Governance in Higher Education*, *1*(1), 1-25.
12. Khan, H., Shah, K. A. M., Khalid, J., Harnmal, M. A. A., & Ali, A. J. (2020). Globalization and University Rankings: Consequences and Prospects. *International Journal of Higher Education*, *9*(6), 190-199.
13. Kumar, S., Lim, W. M., Sureka, R., Jabbour, C. J. C., & Bamel, U. (2024). Balanced scorecard: trends, developments, and future directions. *Review of managerial science*, *18*(8), 2397-2439.
14. Lazić, Z., Đorđević, A., & Gazizulina, A. (2021). Improvement of quality of higher education institutions as a basis for improvement of quality of life. *Sustainability*, *13*(8), 4149.
15. Leong, W. Y., & Zhang, J. B. (2024). Revolution in university ranking system. *ASM Science Journal*, *19*, 1-12.
16. Martin-Sardesai, A., Guthrie, J., Tooley, S., & Chaplin, S. (2019). History of research performance measurement systems in the Australian higher education sector. *Accounting History*, *24*(1), 40-61.
17. Mathew, F. A., Pushpa, B. V., Mohapatra, P. P., Pal, S., Ashokkumar, N., & Riyazahamed, K. (2024). Shaping the Future of Higher Education: Perspectives on Outcome-Based Education, Accreditation, and Institutional Rankings. *Educational Administration: Theory and Practice*, *30*(6), 1816-1824.
18. Narayan, A. K. (2020). The development and use of performance measures in New Zealand tertiary education institutions. *Accounting History*, *25*(2), 193-218.
19. Peters, M. A. (2019). Global university rankings: Metrics, performance, governance. *Educational Philosophy and Theory*, *51*(1), 5-13.

20. Sarrico, C. S., & Godonoga, A. (2021). Higher education system rankings and benchmarking. In *Research handbook on university rankings* (pp. 197-209). Edward Elgar Publishing.
21. Too, R. (2025). *The World University Rankings 2016–2026* [Data set]. Kaggle. https://www.kaggle.com/datasets/raymondtoo/the-world-university-rankings-2016-2024