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Is It Possible to Rank Universities Using Fewer Indicators? A Case Study on Five International University Rankings Popular Among Sri Lankan State Universities.

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Abstract
This study examines the applicability of international university ranking systems to Sri Lankan state universities, focusing on the five most popular systems: Times Higher Education (THE), QS World University Rankings, SCImago Institutions Rankings, University Ranking by Academic Performance (URAP), and Webometrics. These rankings, often used as benchmarks for institutional quality, heavily emphasize research, internationalization, and visibility—areas where Sri Lankan universities face challenges due to resource limitations, reliance on localized indicators, and contextual constraints. The study analyzes the indicators and methodologies of these systems and evaluates their alignment with the strengths and challenges of Sri Lankan universities. Findings reveal that while Sri Lankan universities excel in teaching quality, societal impact, and regional development, they struggle to meet criteria such as international collaborations, citation impact, and industry partnerships that are heavily weighted in global rankings. The study highlights the limitations of using these rankings to fully capture the performance of universities in developing contexts and advocates for a more nuanced evaluation framework that integrates local priorities. Recommendations include phased strategies to improve research output, international visibility, and institutional capacity while aligning with global standards. The findings underscore the need for Sri Lankan universities to balance global competitiveness with their national mission to contribute to societal and economic development.
Keywords: *University Ranking Systems, Ranking Indicators and Sri Lankan universities*

Introduction

The University Grants Commission (UGC) of Sri Lanka which functions as the apex body of the University System in the country, was established on December 22nd 1978 under the Universities Act No. 16 of 1978. The UGC involves in planning and coordination of university education, allocation of funds to (HEIs), maintenance of academic standards, regulation of the administration of HEIs and regulation of admission of students to HEIs. Seventeen universities, three campuses and sixteen institutes were established under the purview of the University Grant Commission, Sri Lanka. Other than this, six universities were also established under the act of Parliament of Sri Lanka and maintained by different ministries (UGC, 2022).

Higher Education Institutions (HEIs) play a significant role in society through raising awareness, knowledge creation, skill development and research development. University Grants Commission (UGC) of Sri Lanka is the prime body of the university system in Sri Lanka and is involved in planning and coordinating university education, fund allocation to HEIs, maintaining academic standards and regulating administration and student admission. There are seventeen universities, nineteen institutes, two campuses and six universities under different ministries managed by UGC. In developing countries, the broader economic and social objectives are expected to be achieved through the higher education systems (Fernando et al., 2018). HEIs in Sri Lanka face many challenges in conducting research (University Grants

Commission, 2014). The research capacity of a country can be measured through the percentage of Gross Domestic Product (GDP) spent on research, number of researchers, number of publications in refereed journals and number of patents (The World Bank, 2022). Accordingly, Sri Lanka allocated 0.13% of its Gross Domestic Product for research in 2018 whereas the world average is 2.2 percentage (The World Bank, 2022). Sri Lanka focused research in six disciplines, such as: natural science, engineering and technology, medical science, agricultural science, social sciences and humanities and other sectors (Fernando et al., 2018).

International Ranking Systems became important among the HEIs, because of the growth of information economy and increasing global competition among the higher education institutions. There are number of International ranking systems that were in practice. University ranking systems are used for different purposes by various stakeholders. There are around seventeen international university ranking systems that were developed by various institutions, policy makers, governmental organizations, news media etc (Benito et al., 2020). The following five ranking systems are popular among the Sri Lankan Universities,

a) Times Higher Education (THE) Ranking developed by times education institution during 2004 based on: Teaching, research, citations, international outlook and industries income.
b) Quacquerelli Symonds (QS) Ranking by Quacquerelli Symonds Ltd during 2004 based on: Academic reputation, Employer reputation, Citations per faculty, faculty/student ratio, international / faculty ratio and international student ratio.
c) SCImago Institutions (SCI) Ranking by SCImago Lab during 2009 based on: Research, Innovation, and Societal
d) University Ranking by Academic Performance (URAP) by Informatics Institute of the Middle East Technical University, Turkey, in 2010 based on: number of articles, number of citation, total document, article impact total, citation impact total, and international collaboration.
e) Webometric Ranking by Cybermeric laboratory during 2004 based on: Comprising presence, visibility, transparency (Openness) and excellence (Scholars).

International university ranking systems are popular among academic institutions. Ranking results are used by universities as marketing tools via web pages, student orientations, international meetings, and various Medias. In order to compete with International Higher Educational Institutes (HEIs), Sri Lanka must showcase a good research excellences, innovations and large funding from inventors for current and future research projects. It is difficult for a HEIs in developing countries to compete with developed nations, especially with their research infrastructure, ever evolving academic curriculums and research publications (Alma et al., 2016).

International ranking systems mainly depend on the particular set of indicators, and different ranking systems assign different weightage for each indicators. Research based indicators are dominating among the ranking systems, without considering the national and regional factors to propose comparability in an international level. It is questionable whether the higher education institutions can rank according to the single score (Pietrucha, 2018). The ranking system use different sources for the collection of data, however this has been criticized on whether the data sources have been updated to reflect the real performance of the institutions and the applicability of the date source for respective indicators (Alma et al., 2016). These ranking systems become inappropriate for all the HEIs because of use of data sources, which are not publically verifiable, subjective parameters, a narrow focus on research production and regional factors (Soh, 2017)

Most of the university ranking systems in the world have put nearly 50% weightage for institutional research portfolios. Research portfolios of a HEIs could be measured by Research Excellence Framework (REF) which includes the number of publications in indexed databases, number of citations, number of highly cited publication etc (Pinar & Horne, 2022). The main problem with existing university ranking system is not following the holistic approach relevant to the ranking indicators, it varies among different ranking systems. These indicators are highly competitive for HEIs in Sri Lanka. Also Sri Lankan HEIs are adopting good academic, teaching, administrative and research practices recommended by the quality assurance council. It became as an additional burden for the universities in Sri Lanka to work separately to get good position in university ranking among other universities in their country and region to upgrade their reputation. This study aims to study whether Sri Lankan state universities can be ranked based on the indicators used by the popular ranking systems and theses ranking positions reflects the real performance.

Research Questions

Q1: What are the major indicators used by the popular ranking systems and the data sources used?
Q2: Can International ranking systems assess the complete performance of the Sri Lankan state universities?

Methodology

Answer to the research the study focused on five major international ranking systems namely, Times Higher Education World University Ranking, University Ranking by Academic Performance Quacquarelli Symonds World University Ranking, SCImago institutional ranking and Webometric ranking. These ranking were selected due to their popularity among the Sri Lankan universities (Wijetunge, 2021). Complete ranking methodologies and data were retrieved from the official websites of respective ranking systems (Cybermetrics Lab, 2024; QS Quacquarelli Symonds, 2024; SCImago, 2024; Times Higher Education (THE), 2024; URAP Research Laboratory, 2024). Sri Lankan state university institutional

review performance was compared with the ranking position to answer to the second research question. Collected data were analyzed using MS Excel to compare the difference between the ranking position and the international ranking position.

Result

The five popular international ranking systems—QS, Times Higher Education (THE), Academic Ranking of World Universities (ARWU), Webometrics, and U-Multirank—utilize diverse sets of indicators to assess university performance. The key indicators and data sources used are summarized below:

Table 1: The major indicators and data sources for THE, QS, URAP, SCImago, and Webometrics

	Name of the Ranking System	Indicators and weightage	Data sources
1	Times Higher Education (THE)	Teaching (30%) Research (30%) Citations (30%) International Outlook (7.5%) Industry Income (2.5%)	Clarivate Analytics, Institutional Data
2	QS World University Rankings	Academic Reputation (40%) Employer Reputation (10%) Faculty/Student Ratio (20%) Citations/Faculty (20%) International Faculty/Students (10%)	Scopus, Surveys, Institutional Data
3	URAP (University Ranking by Academic Performance)	Research Articles (21%), Citations (21%), Total Documents (10%), Article Impact (18%), Citation Impact (15%), International Collaboration (15%)	Web of Science, Research Databases
4	SCImago Institutions Rankings	Research (50%), Innovation (30%), Societal Impact (20%)	Scopus, Institutional Websites
5	**Webometrics**	Presence (50%), Visibility (25%), Excellence (25%)	Institutional Websites, Scopus

The systems prioritize research output, academic reputation, and internationalization, but they differ in weightage and granularity. Notably, most rely on external bibliometric databases (e.g., Scopus, Clarivate), academic surveys, and institutional self-reporting. This diversity in indicators reflects varied perspectives on what constitutes university quality but also highlights the potential for overlap and redundancy.

Q2: Can international ranking systems assess the complete performance of Sri Lankan state universities?

Sri Lankan state universities generally perform well in localized contexts, emphasizing teaching and regional development. However, the application of international ranking systems to assess their complete performance reveals significant challenges:

1. **Mismatch in Indicators:**
   Sri Lankan universities may lack substantial international collaborations or visibility, which are heavily weighted in systems like QS and THE. Indicators such as Nobel Prize winners or publications in top-tier journals (ARWU) are often irrelevant to their current capacity.
2. **Data Availability:**
   Many universities struggle to provide comprehensive data required by ranking bodies. Institutional reliance on outdated or manual record-keeping systems exacerbates the issue.
3. **Overemphasis on Research:**
   International rankings focus disproportionately on research, citations, and global impact, sidelining teaching quality, social impact, and community engagement—areas where Sri Lankan universities excel.
4. **Cultural and Contextual Factors:**
   Rankings often fail to capture localized metrics, such as contributions to regional development or alignment with national priorities. Limited financial resources and brain drain also restrict universities from competing globally.

International rankings provide a valuable benchmark but are insufficient to fully assess the performance of Sri Lankan state universities. Metrics tailored to local priorities, such as student employability, societal impact, and contribution to national goals, are needed for a more comprehensive evaluation. While Sri Lankan universities can strive to improve in

globally recognized metrics, national or regional ranking frameworks may better capture their true performance and contribution.

Table 2: Alignment of Sri Lankan State Universities with Major Ranking Indicators

No	Ranking	Strengths	Chancellenges
	Times Higher Education (THE)	Strong focus on teaching quality aligns with "Teaching" (30%).	- Limited international collaborations reduce "International Outlook" (7.5%). - Low research output and citations impact "Research" (30%) and "Citations" (30%). - Minimal industry partnerships affect "Industry Income" (2.5%).
	QS World University Rankings	Strong academic reputation, especially for the University of Peradeniya and Colombo.	- High faculty/student ratios reduce scores for "Faculty/Student Ratio" (20%). - Limited international faculty and student enrollments impact internationalization metrics (10%). - Modest research output affects "Citations per Faculty" (20%).
	University Ranking by Academic Performance (URAP)	Consistent publication of research articles contributes to "Research Articles" (21%).	- Low "Citation Impact" (15%) and "International Collaboration" (15%) due to limited global partnerships. - High reliance on local journals reduces "Article Impact" (18%).
	SCImago Institutions Rankings	- Strong societal contributions align with "Societal Impact" (20%).	- Modest research visibility limits performance in "Research" (50%). - Limited focus on research commercialization affects "Innovation" (30%).
	Webometrics	- Improving web presence contributes to "Presence" (50%). - Gradual improvement in publishing in international journals supports "Excellence" (25%).	- Low external linkages impact "Visibility" (25%). - Limited integration into global academic networks reduces online impact.

Recommendations for Improving the Performance of Sri Lankan State Universities in International Rankings

Times Higher Education (THE)

Improve Research Output: Encourage faculty to publish in high-impact journals indexed in global databases like Scopus and Clarivate. Establish research centers of excellence focused on globally relevant topics to attract more citations.

Boost International Outlook: Increase partnerships with foreign universities for joint research and student/faculty exchange programs. Enhance recruitment of international students and faculty by offering competitive scholarships and packages.

Enhance Industry Income: Collaborate with local and international industries to develop applied research projects and generate revenue.Focus on technology transfer and commercialization of research outputs.

QS World University Rankings

Enhance Academic Reputation: Strengthen alumni networks and engage them in promoting university achievements globally. Actively participate in international academic forums and conferences to increase visibility.

Improve Faculty/Student Ratio: Recruit additional qualified faculty to reduce the ratio and improve student support. Utilize digital tools for hybrid learning to maintain quality despite high enrollment.

Increase Citations per Faculty: Provide training on publishing in high-impact journals and writing grant proposals. Create incentives such as rewards for highly cited researchers or impactful publications.

Strengthen Internationalization: Establish offices dedicated to international relations to attract foreign students and scholars. Develop dual-degree programs with global partners to enhance international collaboration.

University Ranking by Academic Performance (URAP)

Enhance Citation Impact: Encourage collaboration with researchers from high-ranking institutions to boost visibility and impact. Prioritize publishing in journals with high citation indices.

Strengthen International Collaboration: Partner with global universities for joint publications and projects.Leverage regional collaborations in South Asia to address common challenges and increase output.

Improve Article Impact: Focus on producing research aligned with global challenges (e.g., climate change, public health).Offer workshops on targeting journals with high impact factors.

SCImago Institutions Rankings

Improve Research Metrics: Establish interdisciplinary research hubs to address contemporary global issues.Invest in state-of-the-art research infrastructure to support innovation.

Boost Innovation: Collaborate with industries to develop innovative solutions and patents.Provide seed funding for faculty and students to pursue start-ups and applied research projects.

Increase Societal Impact: Highlight contributions to regional development in reports and publicize them internationally.Develop outreach programs addressing national and community needs, such as skill development and technology transfer.

Webometrics

Enhance Online Presence: Regularly update university websites with research outputs, achievements, and rankings. Optimize websites for search engines to improve global visibility.

Increase External Linkages: Build relationships with international institutions to increase backlinks from authoritative websites. Encourage faculty and students to blog about their research and link it to institutional sites.

Focus on Excellence: Identify and support key research areas to boost the number of publications in the top 10% most-cited papers.

Prioritizing Initiatives to Enhance Sri Lankan Universities' Performance in Rankings

To maximize impact while addressing resource constraints, the initiatives can be prioritized as follows:

Immediate Priorities (0–1 Year):These are low-cost, high-impact actions that can yield quick results:

1. **Data Management and Reporting:**
    - Implement robust data collection and reporting systems to ensure accurate submission to ranking bodies.
    - Assign a dedicated team to compile and validate data for rankings.
2. **Enhancing Online Presence (Webometrics):**
    - Regularly update institutional websites with research outputs, achievements, and international collaborations.
    - Optimize websites for search engines and increase backlinks from authoritative sites.
3. **Faculty Development (All Rankings):**
    - Conduct workshops on publishing in high-impact journals and improving research visibility.
    - Provide incentives for faculty members to publish in top-tier journals and increase citation counts.
4. **Promoting International Collaboration (THE, QS, URAP):**
    - Initiate low-cost partnerships such as virtual research collaborations and online joint seminars with foreign institutions.

Mid-Term Priorities (1–3 Years)

These require moderate resources and time but provide sustainable improvements:

1. **Improving Research Metrics (THE, QS, SCImago, URAP):**
   - Invest in interdisciplinary research centers focused on globally relevant challenges.
   - Encourage collaboration with international researchers to increase joint publications and citations.
2. **Strengthening Internationalization (QS, THE):**
   - Offer scholarships and incentives to attract international students and faculty.
   - Develop exchange programs and dual-degree partnerships with reputable global universities.
3. **Enhancing Visibility and Reputation (QS, SCImago):**
   - Actively participate in international academic forums and conferences to improve institutional reputation.
   - Engage alumni and stakeholders to promote the university's achievements globally.
4. **Improving Faculty/Student Ratios (QS):**
   - Recruit additional faculty to improve teaching quality and reduce student load.
   - Consider blended learning models to optimize faculty resources.

Long-Term Priorities (3–5 Years)

These require significant resources and structural changes:

1. **Infrastructure Development (SCImago, THE):**
   - Invest in state-of-the-art research facilities and equipment.
   - Create incubation centers for innovation and technology transfer.
2. **Boosting Industry Income and Innovation (THE, SCImago):**
   - Establish research collaborations with industries and focus on commercializing intellectual property.
   - Launch applied research programs targeting industry needs.
3. **Improving Societal Impact (SCImago):**
   - Develop programs focused on community engagement, skill development, and regional challenges.
   - Showcase societal contributions in international platforms to gain recognition.
4. **Increasing High-Impact Research (All Rankings):**
   - Focus on strategic areas like public health, renewable energy, and sustainable agriculture for global impact.
   - Provide long-term funding and mentorship for faculty and students engaged in high-impact research.

Implementation Strategy

1. **Form a Ranking Task Force:**
   - Establish a dedicated team to oversee initiatives and track progress.
2. **Set Measurable Goals:**
   - Define short- and long-term performance targets for indicators in each ranking system.
3. **Monitor and Evaluate Progress:**
   - Regularly review the impact of implemented strategies using both internal metrics and ranking updates.
4. **Engage Stakeholders:**
   - Involve faculty, students, alumni, and government stakeholders to ensure collective effort and resource mobilization.

By starting with immediate priorities and building momentum through mid-term and long-term goals, Sri Lankan universities can steadily improve their global standing while staying true to their regional and national missions.

Conclusion

The analysis of international university ranking systems highlights the complexity and challenges of ranking Sri Lankan state universities using global indicators. While these systems provide valuable benchmarks, they often fail to capture the full spectrum of university contributions, particularly in localized and context-specific areas such as societal impact and regional development. Sri Lankan universities face significant obstacles, including limited research output, restricted international collaborations, and resource constraints, which hinder their competitiveness in global rankings. However, the study reveals opportunities for strategic improvement. By focusing on tailored initiatives such as enhancing research visibility, fostering international partnerships, and leveraging regional strengths, Sri Lankan universities can improve their standing while addressing national priorities. The adoption of a phased approach—beginning with immediate, low-cost interventions and progressing to long-term structural investments—offers a practical pathway for sustained growth. Ultimately, while global rankings provide a useful reference point, a holistic evaluation framework that integrates national goals and contextual realities is essential for accurately reflecting the performance and potential of Sri Lankan universities. This balanced approach will not only enhance their global reputation but also ensure they remain integral to national development.

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