Visualization of the QS World University Rankings (Tableau)

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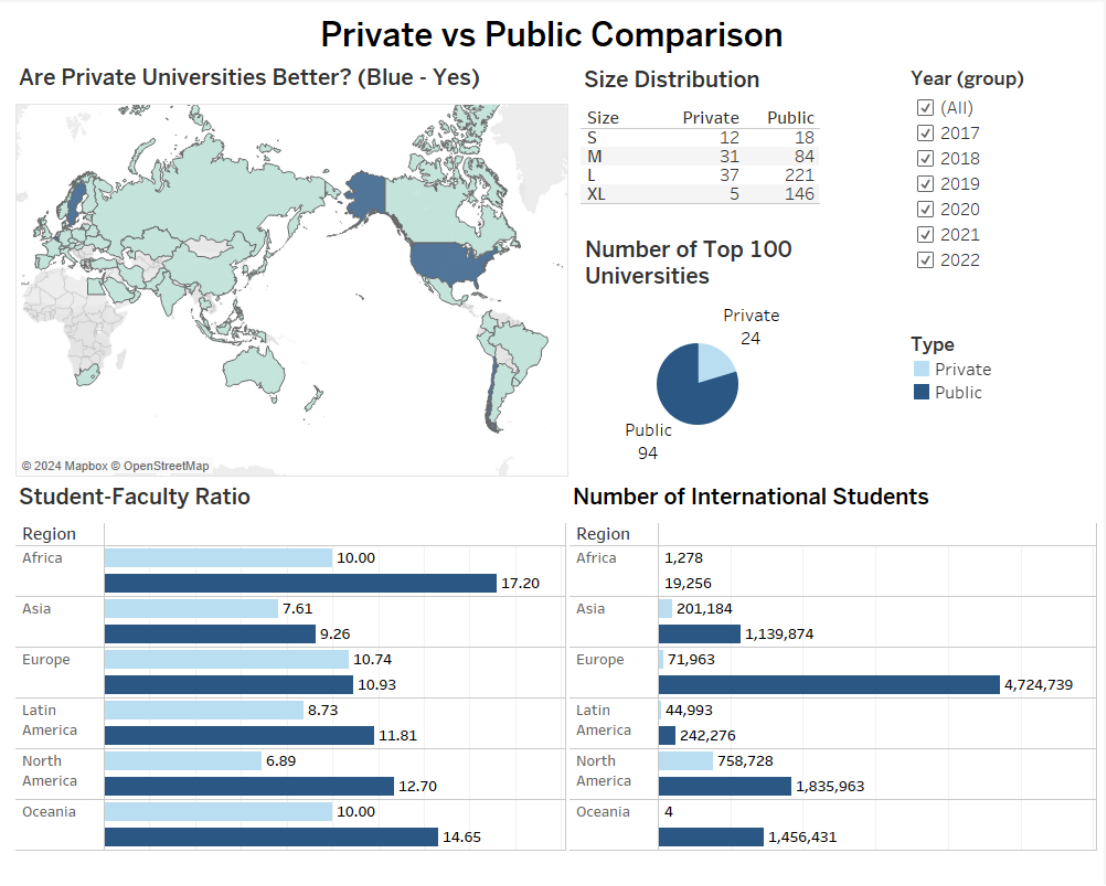
Introduction

The QS World University Rankings, published annually by Quacquarelli Symonds (QS) and endorsed by the International Ranking Expert Group (IREG), serve as a benchmark for assessing global university performance. These rankings are widely consulted by prospective students and academic institutions worldwide to gauge the relative standings of universities. The dataset utilized for this analysis is sourced from Kaggle, encompassing QS World University Rankings data spanning from 2017 to 2022 (Muniraj, 2022).

This report presents my individual contribution to the group work. It offers a comprehensive analysis through an interactive dashboard interface, focusing on key metrics and comparisons between public and private universities globally. By leveraging interactive visualizations and data-driven insights, the dashboard provides a nuanced understanding of academic performance, physical attributes, educational resources, and global appeal across different regions. It aims to provide actionable insights tailored for various audiences, including students, researchers, educational policymakers, and academic administrators.

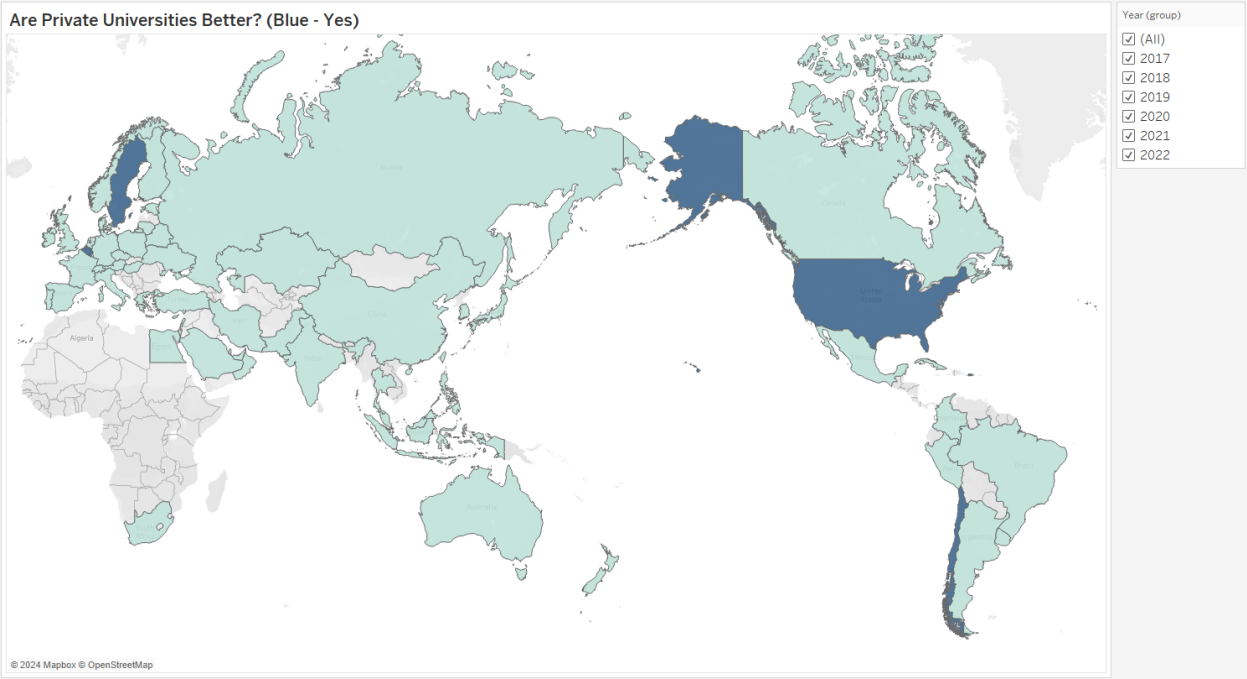
Dashboard Overview

This dashboard provides a comprehensive analysis of key metrics and comparisons between public and private universities, offering insights into their academic performance, physical attributes, educational resources, and global appeal across different regions. Also, a year filter is used to enable analysis across different years.



Visualization and Analysis

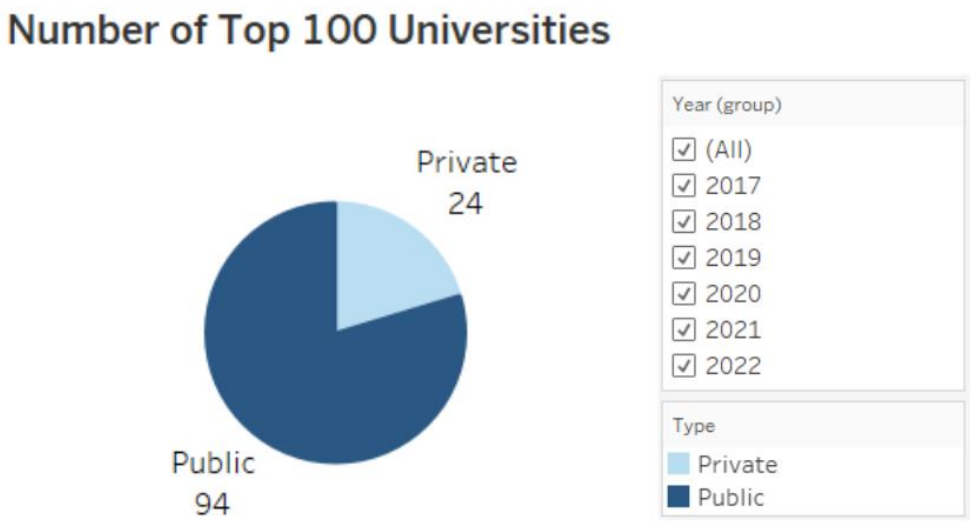
1. Are Private Universities Better? (Blue - Yes)



In analyzing the performance disparities between public and private universities globally, a map is utilized to highlight countries where private universities excel (have higher average scores). The map uses a color scheme where blue indicates higher scores for private universities.

Overall, public universities generally achieve higher academic scores globally. Exceptions include countries like Sweden, Belgium, the United States, and Chile, where private universities demonstrate superior performance.

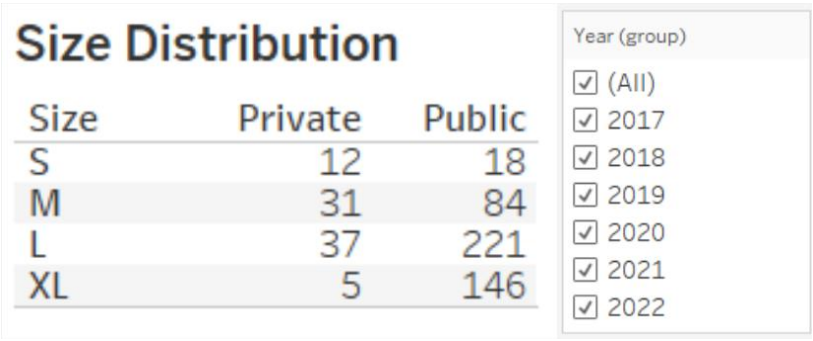
2. Number of Top 100 Universities



To assess the representation of public and private universities in the top 100 rankings, a pie chart categorizes universities by sector.

This visualization underscores the dominance of public universities in the highest academic echelons, highlighting their superior academic performance and global reputation compared to private institutions.

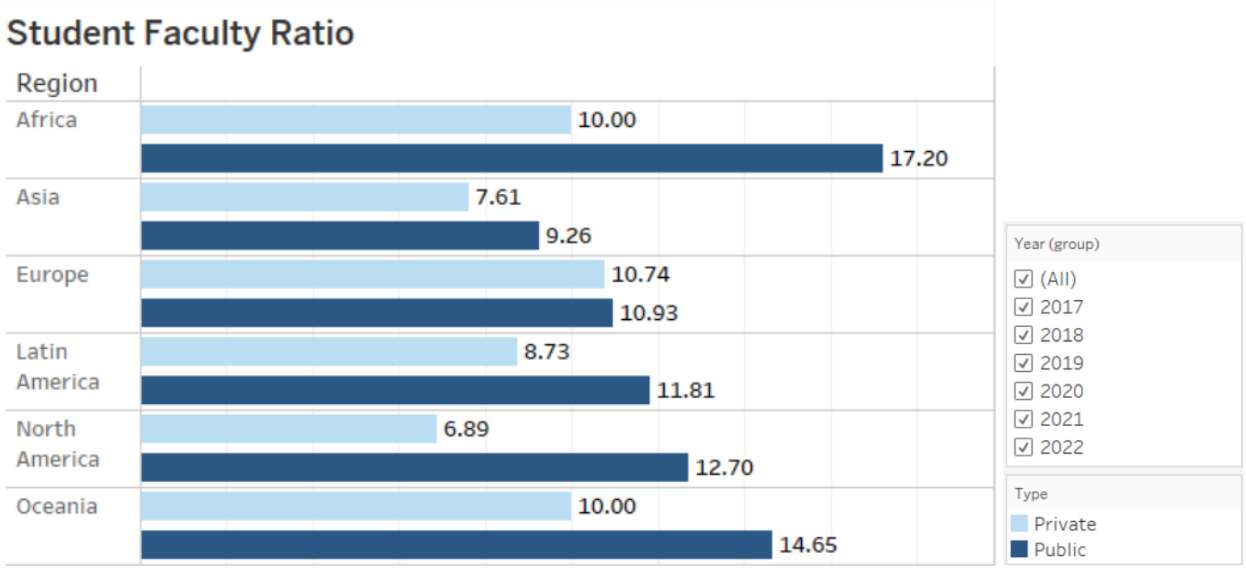
3. Size Distribution



Examining physical size distribution, a table categorizes universities by size (S, M, L, XL) for both public and private sectors.

Public universities are notably larger, particularly in categories L and XL, while private universities are more prevalent in smaller size categories (M and S). This comparison highlights the physical scale differences between the two types of institutions globally.

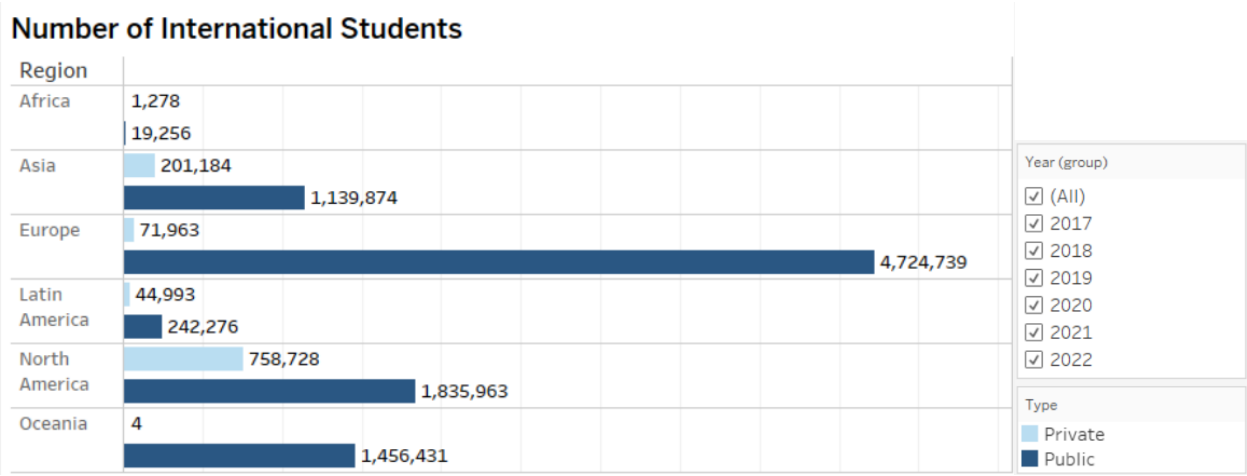
4. Student-Faculty Ratio



Student-faculty ratios across different regions are depicted in a bar chart comparing public and private universities.

Public universities generally have higher ratios across all regions, with notable differences such as Africa (17.20 for public vs. 10.00 for private) and minimal differences in Europe (10.93 for public vs. 10.74 for private). Private universities typically offer more favorable student-faculty ratios, suggesting smaller class sizes and greater individualized attention for students. (Drozdowski, 2022)

5. Number of International Students



A bar chart compares the number of international students by region between private and public universities, with a year filter for temporal analysis.

Public universities consistently attract more international students globally compared to private universities, underscoring their role as primary destinations for international students worldwide. Europe stands out with the highest number of international students in public universities (4,724,739), highlighting its attractiveness as a global education hub.

Key Findings

- **Performance Disparities:** Public universities generally score higher than private ones, except in Sweden, Belgium, the United States, and Chile, where private universities excel.
- **Top 100 Universities:** The majority of the top 100 universities are public institutions, indicating public universities dominate the highest ranks in academic performance and reputation.
- **Campus Size:** Public universities occupy larger areas, particularly in the L and XL categories, while private universities are more common in the smaller M and L categories.
- **Student-Faculty Ratio:** Public universities have higher student-faculty ratios compared to private universities across all regions. The largest difference is in Africa, and the smallest in Europe. Private universities generally offer more favorable ratios, suggesting smaller class sizes and more individualized attention.
- **International Students:** Public universities host more international students than private universities in every region, making them primary destinations for international students. Europe leads with the highest number of international students in public universities.

Recommendations for Audiences

1. **For Students:**

- Academic Reputation: Consider public universities for top global rankings and academic prestige.
- Student-Faculty Ratio: Evaluate private universities for smaller classes and more personalized attention.
- International Exposure: Choose public universities for a diverse student community, especially prevalent in Europe.
- Campus Size: Decide based on preference for larger campuses typically found in public universities.

2. **For Researchers and Academics:**

- Collaboration Opportunities: Engage with public universities, particularly those in the top 100 rankings, for potential collaboration on research projects.
- Networking: Attend conferences and seminars hosted by public universities to expand professional networks and access diverse perspectives.

3. **For Educational Policy Makers:**

- Investment Focus: Consider investing in public universities to enhance overall academic performance, given their dominance in top rankings.
- Resource Allocation: Allocate resources considering the larger campus sizes of public universities, focusing on infrastructure and facilities.
- Student-Faculty Ratios: Address the higher student-faculty ratios in public universities through policies promoting faculty recruitment and class size management.
- Internationalization Strategies: Enhance strategies to attract more international students to public universities, focusing on benefits like cultural diversity and global reputation.

4. **For Academic Administrators:**

- Competitiveness Strategies: Emphasize and leverage the academic reputation of public universities to attract top talent and funding.
- Improving Student Experience: Consider initiatives to manage student-faculty ratios effectively or enhance the quality of large-class interactions.

Conclusion

This report provides a comprehensive analysis of key metrics comparing public and private universities globally, offering valuable insights into their academic performance, physical attributes, educational resources, and global appeal. Through interactive visualizations and data-driven insights, the analysis highlights significant trends and patterns, helping various stakeholders make informed decisions. Public

universities generally lead in academic rankings and international student enrollment, while private universities often offer favorable student-faculty ratios. These findings support students, researchers, policymakers, and administrators in making strategic choices to enhance educational outcomes and institutional competitiveness.

References

Drozdowski, M. J. (2022). What does student-to-faculty ratio really mean? *BestColleges*. https://www.bestcolleges.com/news/analysis/2021/08/10/solving-the-student-faculty-ratio-mystery/

Muniraj, P. (2022). QS World University Rankings 2017 - 2022 [Data set]. *Kaggle.* https://www.kaggle.com/datasets/padhmam/qs-world-university-rankings-2017-2022