Analysis of Ranking Systems Adopted by Different Countries for Higher Education Institutes

Mamta Solanki, Sarbjit Singh Oberoi, Bibhuti Bhusan Tripathy

Corresponding author: smamta13@gmail.com

Abstract: One of the parameters to judge the quality of the programs provided by any Institute is its ranking at the national level. The ranking is considered an annual report card to the Nation and to the stakeholders on what has been done by the institution in the last year, on the given parameters. The ranking of colleges helps the students make their choice wisely; it also helps the faculty select the institutes as per their interest area. In this paper, a comparative study of the ranking system of the four countries Bulgaria, Germany, Canada, and Japan with India is done. This study analyzes the ranking framework introduced in India and its comparison with the ranking framework used by other countries. It also examines the ranking mechanism used and the parameters which play a vital role in obtaining a better score for the Higher Education Institutes.

This paper critically analyses the various ranking system. It gives a complete view of the need for the ranking system and the areas of improvement in the guidelines of the ranking framework of India.
The findings conclude that although India was home to the world's first university (Nalanda), no Indian colleges or universities are in the top 10 list for over the years in the world rankings. The global higher education ranking is dominated by the colleges of America and Great Britain. The study also found that colleges in Japan have performed exceptionally well in the QS rankings. This research paper provides insights to academicians and practitioners on improving the rankings by adopting strategies.
Keywords: Benchmarking, Management Education, Comparative Analysis, Ranking, NIRF
Subject Area: General Management

INTRODUCTION

With the growing number of colleges and universities all around the world, it has been essential for the Institutes to stay ahead with their competitors and to participate in surveys related to ranking and scoring good marks help them in the overall performance, be it related to companies coming for final placements, or having quality students or having good research-oriented faculty. These ranking agencies have a set of parameters to evaluate the performance of the institutes. This also helps Institutes do self-analysis and take necessary steps to improve their scores in areas where they are lacking. Countries all over the world have their own ranking system for educational institutes. Some of these ranking agencies also release global ranking wherein the world's best educational institutes are ranked based on their designated parameters. Quacquarelli Symonds, popularly known as QS World University Rankings, Financial Times, Forbes, Times Higher Education Ranking, are some of the prominent agencies which release the annual ranking list of the top global institutes.

Similarly, many agencies focus on their country only. They release a set of guidelines and invite the institutes to fill and submit the form, which is more like a survey form. Interested institutes participate in this process, and these participating institutes are ranked in various categories. Many agencies judge in an overall score of 1000, which is also released along with the announcement of the result. Few releases the percentage scored by the institutes, and some use the nominal/ordinal scale to analyze the data.

OBJECTIVES OF THE STUDY:

- To compare the Government of India's ranking methodology with four different countries: Brazil, Germany, Canada, and Japan.
- To find out which parameter plays a vital role in achieving higher education in various ranking
- To do factor analysis of the various ranking and use how factors have impacted the rankings.

LITERATURE REVIEW:

Although ranking of the Institutes had been done through the ancient time but the formal ranking of Institutes came into force from early 21st century. A ranking method based on handicaps there is need to make institutions of high education and research to be that of world

class. (Kakkar and Dash, 2011). Global rankings paved the way for localization in institutional ranking by national governments(Sheeja N.K., Susan Mathew K., 2018) Due to the globalization and competition in higher education the importance of Institutional Ranking has become more standardized. (Mukherjee, 2019)(Agrawal, 2000)

(Hazelkorn, 2014)also found that students from upper middle-class and upper-class families in the UK (1999), US (1999), Chile (2002) and India (2004) were most likely to avail of guides or rankings.

Reputational characteristics, such as rankings, influence student choice in explicit and implicit ways has often been explained as being symptomatic of a particular culture. For many countries one of the best ways to progress is through higher education (João Dos Reis Silva Júnior1, 2012). Throughout the world, higher education institutions invariably strive to pursue excellence and success, and in this process, quality and quality assurance are indispensable components. (Yingxia Cao, 2014). World university rankings are very competitive among educational institutions since it is a tool to attract good resources such as staff and students to the institutions.(Pattira Jabjaimoh, Klairung Samart, Naratip Jansakul, 2019). The nations progress depends on the good percentage of skilled and educated human resource.

The institutes are ranked in the ranking results, but the comparison of institutes becomes difficult based on other parameters such as location. (Lutz Bornmann, Moritz Stefaner, 2015)(Lutz Bornmann, Moritz Stefaner, 2015)

Bulgaria

The Bulgarian University Ranking System, maintained by the Bulgarian Ministry of Education, compares academic programs in accredited domestic higher education institutions. The system ranks programs based on more than 50 indicators, such as teaching and learning conditions, scientific research, career development opportunities, prestige, and material resources.
Krasimir Valchev, Minister of Education, Bulgaria (2018), quotes: "*The Ranking System is a peculiar cornerstone in the development of the system of university education*".
    The Bulgaria rating system uses nearly 100 different indicators by which comparisons can be made between higher education institutions. They are formed based on statistical data collected from various sources, including sociological surveys. The indicators are divided into six groups:
·   *Educational process; (30%)*
·   *Research; (20%)*
·   *Learning environment; (2.5%)*
·   *Social and administrative services;(2.5%)*

- · *Prestige;(5%)*
- · *Realization on the labor market and regional significance. (40%)*

Germany

Germany does CHE ranking, which ranks universities of Germany and Austria. The ranking of CHE is based on a large number of criteria.

The CHE ranking presents both objective factual data on study programs and universities as well as subjective assessment by students and professors. (Dill, 2010)

The decision for a university is based on a large number of criteria. The CHE University Ranking has up to 37 different assessment criteria (so-called Indicators) for each university.

The Decision-Making Model allows them to be thematically summarized in nine indicators. Each has been given equal importance. The modules are as follows:

- Job market and career-orientation
- Equipment
- Research
- International orientation
- Result of study
- Town and University
- Students
- Academic studies and teaching

The ranking deliberately chooses not to add the survey results together to produce an overall points score. Why? Because there simply is no "best higher education institution," not in one subject and certainly not in all subjects. For example, a university may indeed be a leader in the field of research. Still, the equipment it offers its students may be miserable, or it may be strong in German Studies but poor in Economics and Business Administration. Instead of crowning some presumed overall winner, it offers a multidimensional ranking. Several ranking (league) lists produced based on quite different criteria paint a differentiated picture of the strengths and weaknesses of the individual universities. Thus, it considers overall ranking but considers ranking in various fields for various universities. The CHE ranking is presently done for Dutch Institutes also

Japan

Several lists rank Japanese universities, often called Hensachi, with most measuring them by their entrance difficulty or by their alumni's successes. The Hensachi Rankings have been most commonly used as a reference for a university's rank.

The "TSU" ranking is designed to assess a university's strength as an organization. It uses eleven indicators in three categories. The eleven indicators contribute equally to the rankings after the calculation of standardized scores. "TSU" picked 181 major Japanese universities for its evaluation.

Financial strength:

The financial strength concept consists of "Applicants' increasing ratio (%)," "Recurring profit margin (%)," "External fund gaining ratio (%)," and "Capital adequacy ratio (%)."

Education and research quality:

Education and research quality is measured using "Spending's for education and research per income (%)," "Number of GP gaining's, ""Grants-in-Aid for Scientific Research (million yen)", and "Student/faculty ratio (%)".

Graduate prospects:

Graduate prospects are evaluated using "Employment rate (%)", "Number of alumni as executives in listed companies in Japan," and "Average graduate salary at 30 years old (million yen)".

Most of the ranking systems in Japan rank universities by the difficulty of their entrance exams, called "Hensachi". One example of such a ranking is Going broke universities - Disappearing universities by Kiyoshi Shimano Organizations who use other ranking universities in Japan, including Nikkei Business Publications, which annually releases the Brand rankings of Japanese universities every November. Toyo Keizai, who regularly releases the university rankings "Truly Strong Universities" once a year, is another example. Japanese leading prep school Kawaijuku also released Japan's Top 30 University Rankings in Natural Sciences and Technology for MEXT's GLOBAL 30 Project in 2001.

Canada

Maclean's, a Canadian news magazine, publishes an annual ranking of Canadian Universities called the Maclean's University Rankings. Ranking criteria include student body characteristics, classes, faculty, finances, library, and reputation. The rankings are split into three categories: schools that focus on undergraduate studies with few to no graduate programs. These schools have both extensive undergraduate studies and an extensive

selection of graduate programs and schools with a professional medical program and a selection of graduate programs.

The University of Calgary produced a formal study examining the ranking methodology, illuminating the factors that determined its rank and criticizing certain aspects of the methodology. The University of Alberta, the University of Toronto, and the University of Manitoba have expressed displeasure over the ranking system. [142]

However, a notable difference between rankings in the United States and *Maclean's* rankings is that *Maclean's* excludes privately funded universities. However, the majority of Canada's institutions, including the best-known, are publicly funded.

Beginning in September 2006, over 20 Canadian universities, including several of the most prestigious and most prominent universities such as the University of Toronto, University of British Columbia, University of Alberta, Concordia University, McMaster University, and Dalhousie University, jointly refused to participate. University of Alberta president Indira Samarasekera wrote that *Maclean's* initially filed a "Freedom of Information" request but that it was "too late" for the universities to respond. Samarasekera further stated, "Most of [the universities] had already posted the data online, and we directed *Maclean's* staff to our Web sites. In instances where the magazine staff couldn't find data on our Web site, they chose to use the previous year's data."[144]

India

As per AICTE (https://www.aicte-india.org/downloads/ancient.pdf), Takshashila and Nalanda are the ancient universities that are dated back to at least the 5th century BC and 5th century AD, respectively. India's education system is the most diverse in the world (Kumar, 2016). In the past years, higher education in India has seen a constant increase in student enrolment. (Angom, 2015). Although in India, various private ranking agencies have been working for decades to rank the Institutes on the various parameters. The Government has introduced its ranking framework known as the National Institutional Ranking Framework (NIRF) on 29th September 2015 to rank higher education institutions in India. The parameters fixed for the assessment of Indian institutions under NIRF are par with those of other world university ranking agencies. (Sheeja N.K., Susan Mathew K., 2018). The parameters for NIRF are listed in Appendix 1. With a single score system, NIRF has substantially reduced the complexity of higher education ranking (Prathap, 2017)

DATA ANALYSIS:

This study has considered five different national rankings adopted by countries; the data was collected from various websites. For each ranking, the top 50 institutes in various categories

were considered. Then composite score using multiple regression has been calculated for each institute. Finally, to assess the impact of each factor, sensitivity analysis has been done to understand the impact of each parameter.

The below table represents the QS World University ranking and number of institutes of each country in the top 200 ranks:

Sr. No	Country	Number of institutes in top 200 in the year 2020	Number of institutes in top 200 in the year 2021
1.	Bulgaria	**None** only one institute that too in rank band 601-650 (Sofia University "St. Kliment Ohridski")	**None** only one institute that too in rank band 601-650 (Sofia University "St. Kliment Ohridski")
2.	Germany	**11** Institutes	**12** Institutes
3.	Japan	**10** Institutes	**10** Institutes
4.	Canada	**7** Institutes	**7** Institutes
5.	India	**3** Institutes	**3** Institutes
6.	USA	**46** Institutes	**45** Institutes
7.	UK	**28** Institutes	**26** Institutes

Observations:

Although Indian education system is one of the most ancient in the world and is known for our rich education system. But then also it fails to attain its place in the top 10 in the global education ranking. In the QS world university ranking only three Indian institutes viz., IIT Bombay, IISC Bangalore, IIT Delhi could make into the top 200 with ranks 172nd, 185th, 193rd respectively in the years 2020 and 2021. In the Quacquarelli Symonds (QS) ranking in Global MBA 2020, only two Indian Institutes are in the top 50 rank. IIM Ahmedabad and IIM Bangalore has improved their ranking as compared to the previous year with a rank of 40 and 44 respectively, and ISB Hyderabad was fortunate enough to make into top 100 global institute with a rank of 98. But in the year 2021, IIM Ahmedabad slipped to 50th position and IIM

Bangalore to 54th, whereas ISB Hyderabad ranked up to 93rd position. The top most rank has seen a dominance of universities from United States of America and United Kingdom.

Conclusion:

The colleges in USA and UK attract more international students and faculty as compared to any other country. Even though each country has its standards and parameters in ranking, there is a need to revisit and change these parameters from time to time. The respective governments should give colleges the necessary support (P. S. Aithal, Madhushree, 2017) to increase international linkages such as collaborative research, student exchange, faculty exchange and to attract international students and faculty. Colleges should motivate the faculty for research in Scopus indexed journals. These motivations can be in the form of giving incentives, allowing the faculty to attend workshops/seminars/conferences, or can also be promoted. To increase the enrolment ratio in higher education, the government should introduce scholarship programs since a large number of dropout students face financial hardships. Moreover, there should be a uniform fee structure for all the institutes, which also restrains capable students from enrolling in that program.

Appendix 1:

NIRF parameters

Teaching, Learning & Resources (TLR)
- Student Strength including Doctoral Students (SS)
- Faculty-student ratio with emphasis on permanent faculty (FSR)
- Combined metric for Faculty with PhD (or equivalent) and Experience (FQE)
- Financial Resources and their Utilisation (FRU)

Research and Professional Practice (RP)
- Combined metric for Publications (PU)
- Combined metric for Quality of Publications (QP)
- IPR and Patents: Published and Granted (IPR)
- Footprint of Projects and Professional Practice (FPPP)

Graduation Outcomes (GO)
- Metric for University Examinations (GUE)
- Metric for Number of Ph.D. Students Graduated (GPHD)

Outreach and Inclusivity (OI)
- Percentage of Students from Other States/Countries (Region Diversity RD)
- Percentage of Women (Women Diversity WD)
- Economically and Socially Challenged Students (ESCS)
- Facilities for Physically Challenged Students (PCS)
- Perception (PR) Ranking

Peer Perception
- Academic Peers and Employers (PR)

References:

Agrawal, P. (2000). The need for change. *Gas Engineering and Management*, *40*(3). https://doi.org/10.7551/mitpress/12187.003.0013

Angom, S. (2015). Private Higher Education in India: A Study of Two Private Universities. *Higher Education for the Future*, *2*(1). https://doi.org/10.1177/2347631114558192

Dill, M. S. and D. D. (2010). The CHE University Ranking in Germany. *Higher Education Dynamics*, *30*(May), 61–82. https://doi.org/10.1007/978-90-481-3754-1_4

Hazelkorn, E. (2014). ARROW @ TU Dublin The Effects of Rankings on Student Choices and Institutional Selection. *Books/Book Chapters- Centre for Social and Educational Research*, 0–20.

João Dos Reis Silva Júnior1, E. H. E. F. (2012). Globalization of Higher Education: Notes about Economy, Knowledge Production and Impacts on Civil Society. *Open Access Library Journal*, *6*(11).

Kumar, P. S. A. & P. M. S. (2016). Opportunities and Challenges for Private Universities in India. *International Journal of Management*, *6*(1), 88–113. https://doi.org/10.5281/zenodo.161157

Lutz Bornmann, Moritz Stefaner, F. de M. A. & R. M. (2015). Ranking and mappping of universities and research-focused institutions worldwide: The third release of

excellencemapping.net. *Collnet Journal of Scientometrics and Information Management*, *9*(1), 65–72. https://doi.org/10.1080/09737766.2015.1027090

Mukherjee, B. (2019). Ranking Indian Universities through Research and Professional Practices of National Institutional Ranking Framework (NIRF): A case study of Selected Central Universities in India. *Journal of Indian Library Association*, *52*(4). https://scholar.google.com/citations?view_op=view_citation&hl=th&user=QQ2-23sAAAAJ&citation_for_view=QQ2-23sAAAAJ:iH-uZ7U-co4C

P. S. Aithal, Madhushree, R. R. (2017). Comparison of Private Universities in India based on NIRF Ranking and Fee Charging Strategies. *International Journal of Case Studies in Business, IT, and Education*, 72–85. https://doi.org/10.47992/ijcsbe.2581.6942.0016

Pattira Jabjaimoh, Klairung Samart, Naratip Jansakul, N. J. (2019). Optimization for better world university rank. *Journal of Scientometric Research*, *8*(1), 18–20. https://doi.org/10.5530/jscires.8.1.3

Prathap, G. (2017). Danger of a single score: NIRF rankings of colleges. *Current Science*, *113*(4), 550–553. https://doi.org/10.18520/cs/v113/i04/550-553

Sheeja N.K., Susan Mathew K., S. C. (2018). Impact of scholarly output on university ranking. *Global Knowledge, Memory and Communication*, *67*(3). https://www.emerald.com/insight/content/doi/10.1108/GKMC-11-2017-0087/full/html?skipTracking=true

Yingxia Cao, X. L. (2014). Quality and quality assurance in Chinese private higher education: A multi-dimensional analysis and a proposed framework. *Quality Assurance in Education*, *22*(1). https://doi.org/10.1108/QAE-09-2011-0061