



UNDERSTANDING THE GLOBAL RANKING OF UNIVERSITIES AND RANKING STATUS OF INDIAN UNIVERSITY

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Abstract

The system of the ranking of global universities was started to assess the performances of universities based on certain indicators. These rankings help in evaluating complex information using a variety of factors. This paper tries to evaluate three of the widely known global university ranking systems and Indian university ranking systems in a bid to identify the similarities and the dissimilarities on account of the methods adopted, criteria, global outlook, research, and weight using publicly available information. The impacts of these rankings on the stakeholders have also been assessed. The system of ranking global and Indian universities focusses more on aspects of research and less on the environment relating to teaching and learning. This study also proposes a comprehensive guideline that will improve the system of ranking. For any modern society, it is crucial that universities modernise and aid industries and business houses in areas of consulting and innovation.

Keywords: ranking, performance, universities, global, Indian, higher education

INTRODUCTION

Ranking, according to the definition, is a correlation between a set of objects in which the first item is rated higher than, lower than, or equal to the second item. In the language of arithmetic, ranking is referred to as a fragile order or entire pre-order of items. Because two separate objects can have the same rating, ranking is not always the total order of items.

The system of ranking universities finds use in gauging their competitiveness of different universities in today's globalised market, and they are both criticised and praised at the same time. Academics, government agencies, newspapers, magazines, and websites, have conducted the majority of university rankings. At the moment, worldwide rankings cover only a small percentage of the total number of universities (about 2-3%).

There are various causes for universities to use rankings. These include:

- Higher education's growing globalisation,
- Higher education's internationalisation,
- Approximately 40 lakh students are registered for higher education out of their home country, and the number of such students is growing (the figure is estimated to reach 7 million by 2020) [22].
- Inspire the institutions to take part in more significant debates at national and international levels.
- Encouragement of collaborations, like partnerships in research and exchange programmes for students and teachers.

RANKING METHODOLOGY

Regardless of the specifics of any university rankings, the following are the key foundations for a world university:

- **Teaching:** Teaching: For any student and any subject, the teaching environment, or what it feels to study at a university, is the most important component. The rankings are based on the belief that a university's teaching quality is intimately related to its research excellence: the university's knowledge development and transfer. As a result, a reputation survey, staff-to-student ratio, doctorate-to-undergraduate ratio, number of doctorates conferred per academic staff, and institutional income are used to evaluate the Teaching measure. These provide a reliable indicator of the prestige, facilities, and resources of the educational environment, all of which will have a direct impact on you, the student.
- **Research in the Classroom:** The teaching at a university may be outstanding, but the research is not. It is one thing to learn about cutting-edge educational conceptions, theories, and conclusions; it is quite another to learn from the academics who have pioneered such leaps. The Research metric is calculated using a reputation survey, which shows how academic peers view university research; research income, which indicates the importance and quality of research; and research productivity, which shows how much high-quality research is published by academics at the institution.
- **Citations:** The impact of research is the final criterion for its excellence. The figure of the times a scholar's work is mentioned by another scholar is used to determine a university's research influence in the rankings. The impact of research on university experience is similar to the impact of research quality on university experience. Students are more inclined to engage with researchers who are leading and growing the field's conversations if their university's work has a high number of citations. The research effect of an institution reflects its contribution to the global project of collective and collaborative understanding of the world. This contribution serves as a barometer of a university's excellence as well as a source of pride for both professors and students.
- **Perspectives on the World:** Institutions are no longer judged solely by their competitors in their city or nation; world-class universities compete globally, recruiting students and researchers from all over the globe. As a result, having an international perspective is a sign of a top university that is relevant to both international and domestic students. Three variables are used to calculate it: the ratio of foreign students to domestic students, the ratio of international staff to domestic staff, and

the share of research that involves international collaboration. The advantages of having an international environment on campus include encouraging open-minded debates with differing viewpoints and enhancing cross-cultural relations. But at a more basic level, an isolated institution without international linkages simply cannot claim itself among the world's greatest universities in an increasingly global and mobile society.

- **Industrial Income:** This aspect is gradually becoming a concern for institutions and students in science, engineering, business, and technology topics. It represents the commercial impact of an institution's research, which is a reflection of the research's industrial worth. The industrial income indicator is critical if you prioritise the real-world application of science and technology research.
- **Ranking of Subjects:** Students can delve deeper into specific disciplines using 11 subject rankings in the arts and humanities, clinical, pre-clinical, and health sciences, engineering and technology, life sciences, physical sciences, social sciences, law, psychology, education, computer science, and business and economics. The weighting of each indicator is adjusted to reflect the discipline's unique characteristics and priorities.

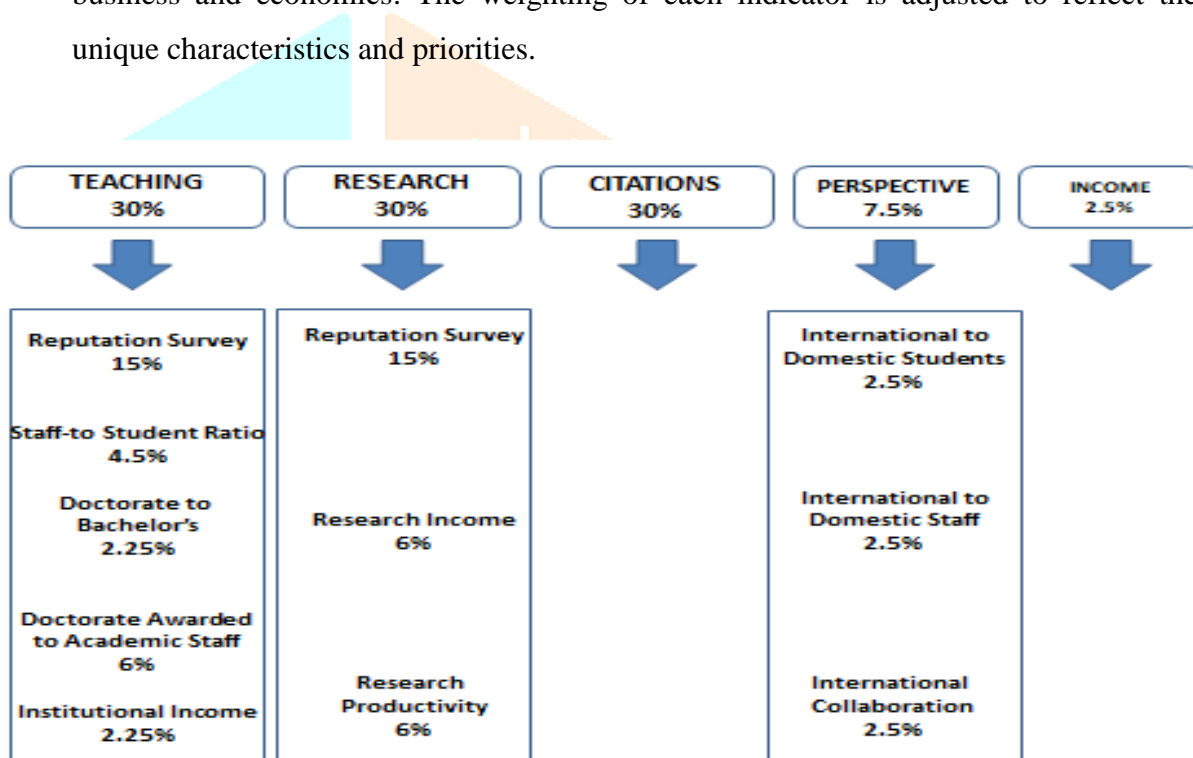


Figure 1: Methodology of Ranking Universities [19]

IMPORTANCE OF UNIVERSITY RANKINGS

Since the implementation of the concept of ranking universities in 2003, the global rankings of universities have grown in terms of importance and visibility. The system of ranking universities can have an impact on:

- The government in the way they measure the excellence of research.
- Any undergraduate student in choosing the university.
- Any company in selecting the university as a partner.
- Any funding agency to invest their money in research carried out in the university.

Cesar Wazen (2020), Director-International Affairs, Qatar University has, in his speech during the course of the latest incident of the Research 2030 podcast titled *Perspectives on Rankings From a Young*

University, stated that University Rankings, besides placing the universities in different positions also provide certain indicators that guide the universities to understand their strengths and weaknesses. Ranking of universities is beneficial for the institutions, the nations, the students, and also provides scope for improvement.

- **Institutions:** ranking is important to the institution for a variety of reasons, among which branding and marketing assume paramount importance. Nearly 50% of the participants who have participated in the study conducted jointly by the Institutional Management in Higher Education and the International Association of Universities had opined that they had used the ranking of their universities for the purpose of marketing through presentations, press releases, and websites [13]. UNESCO defines the importance of ranking as a method of creating competition between all the global universities [20]. The study conducted jointly by the Institutional Management in Higher Education and the International Association of Universities has also shown that 68% of the universities use rankings to help in “*strategic, organisational, managerial and/or academic change.*”
- **Countries:** global education has become a big asset for emergent economies. Rankings of universities play a vital role in the process of drafting policies on immigration and education [24]; According to N. Clark [4], the universities in Brazil had sent information regarding its national scholarship programmes for 100,000 researchers and students to highly ranked partner universities chosen by Quacquarelli Symonds and Times Higher Education. Along similar lines, the University Grants Commission automatically approves the top 500 foreign universities to partner with several Indian universities [15]. Graduates from the highly ranked universities in Denmark are given higher points for the purpose of immigration [23].
- **Students:** ranking of the university is among the major decisions that encourage students to study abroad [8]. A survey conducted among 17,336 international participants from 210 nations shows that 43% of students consult ARWU to choose their universities [2].
- **Improvement:** ranking bodies help institutes of higher education improve their functioning both in the fields of academics and commercial resolves. [18]’

RANKING AGENCIES

Several agencies are engaged in ranking global universities. Prominent among these agencies include Quacquarelli Symonds World University Rankings, Times Higher Education World University Rankings, and Academic Ranking of World Universities. Each agency has its unique method.

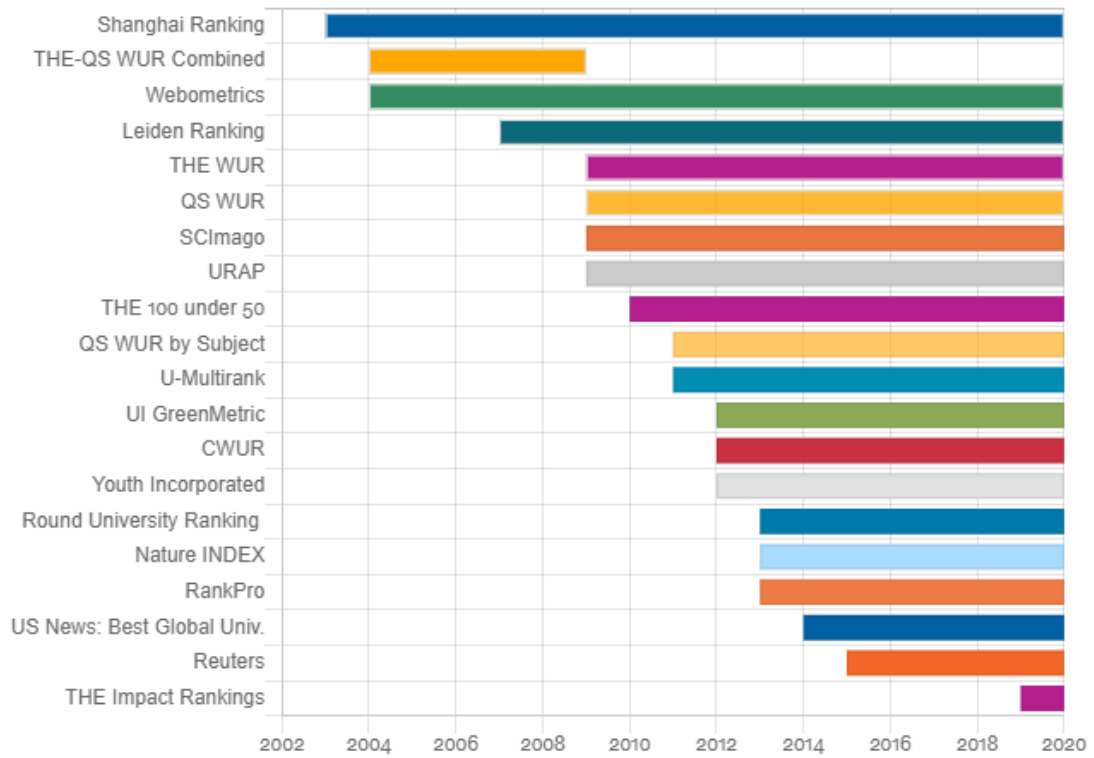


Figure 2: Ranking Agencies [9]

- Quacquarelli Symonds World University Rankings:** The Quacquarelli Symonds World University Rankings was launched in 2004 and is among the most prominent ranking agencies. QS uses six performance indicators to rank global universities. QS ranks only those universities that run courses in five areas [5].



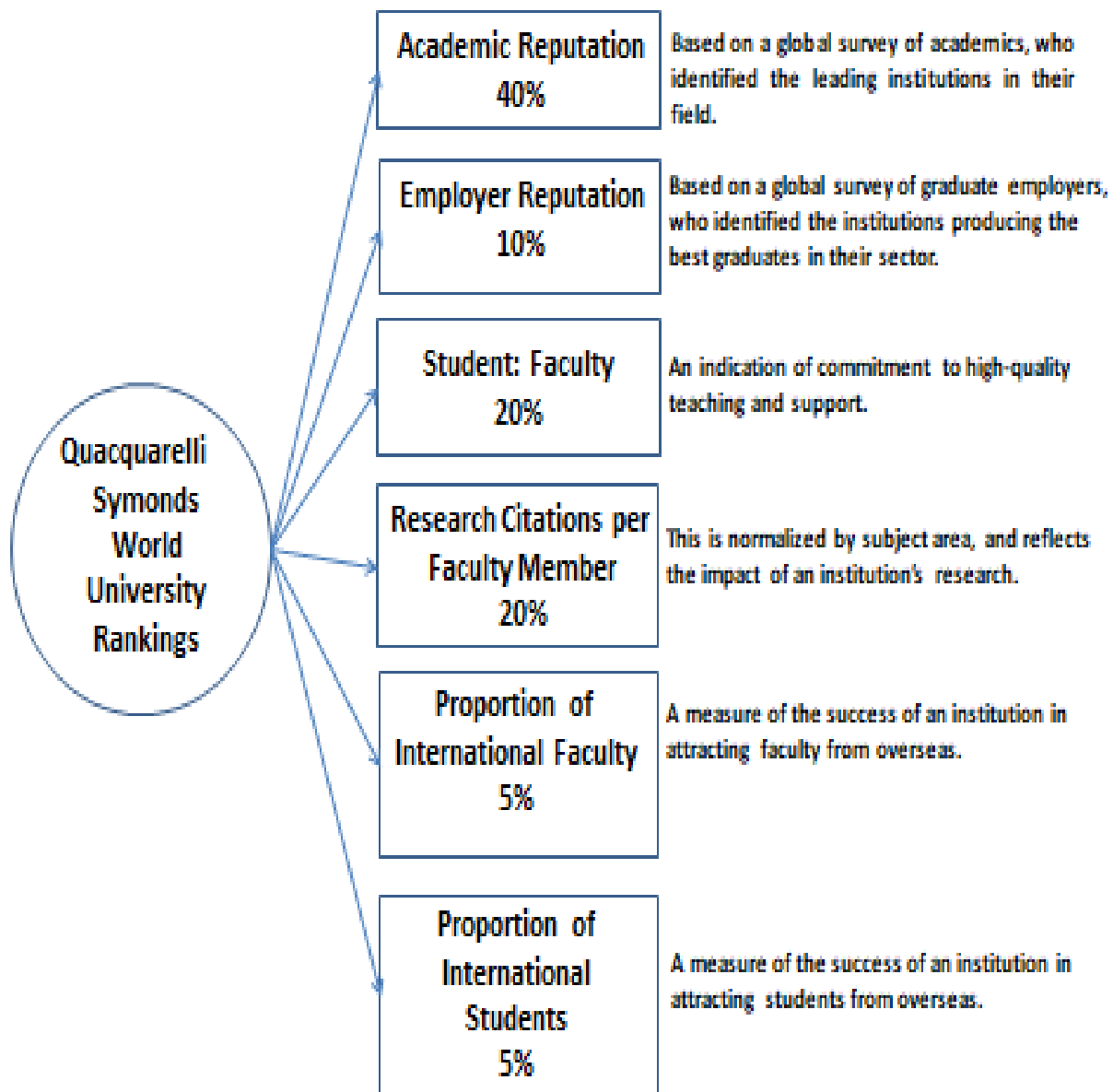


Figure 3: QS Ranking (Source: Craig O, 2022)

Figure 3 is a pictorial representation of the six indicators and the weightage given to each indicator. A brief description of each indicator is also provided in the figure.

Times Higher Education World University Rankings: The Times Higher Education World University Rankings was founded in 2004 and ranked universities using 13 indicators of performance. These indicators are classified into five groups. Institutions running courses from the undergraduate level are only ranked, besides excluding those institutions whose research productivity is less than the minimum prescribed limit [3].

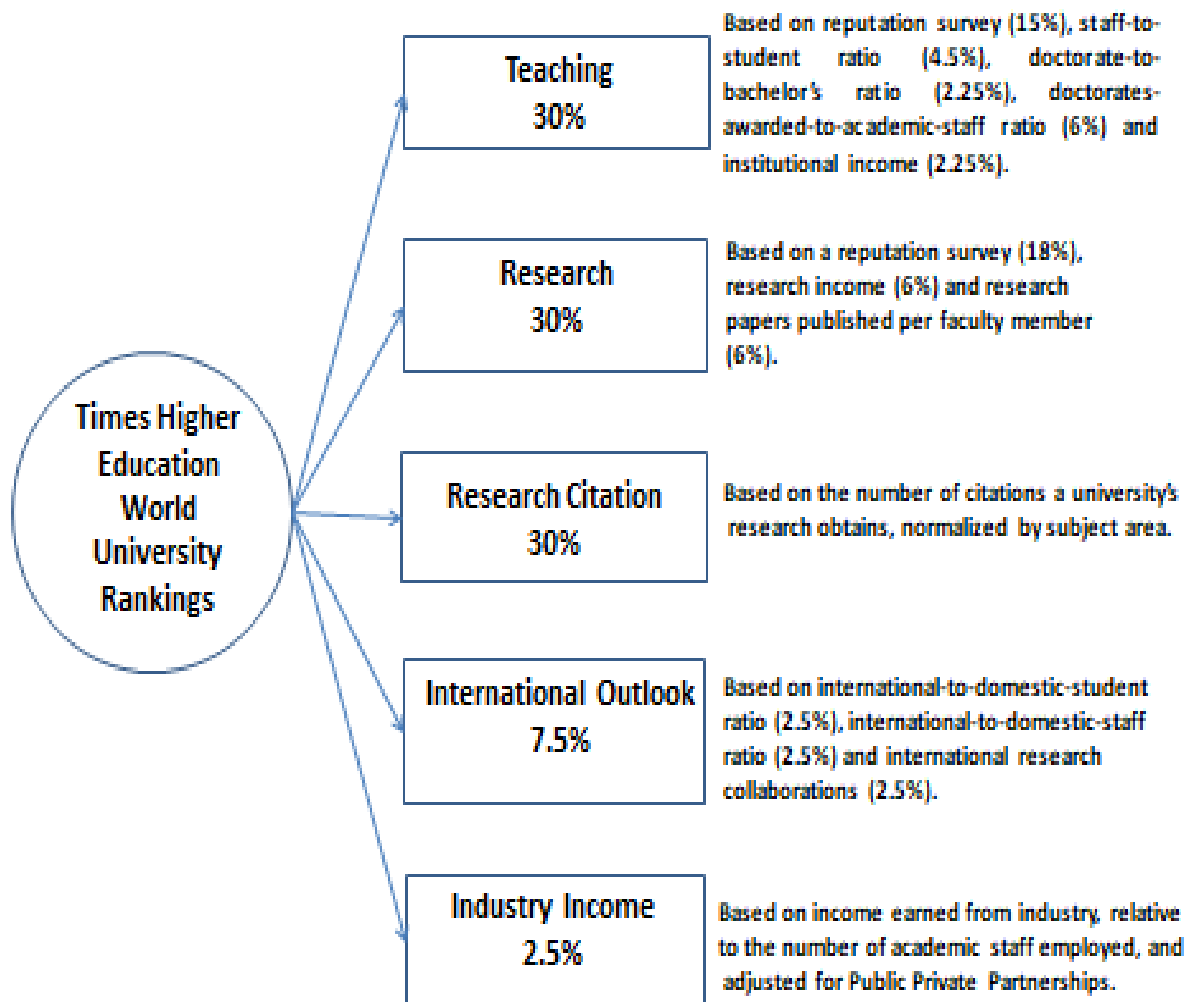


Figure 4: The Ranking (Source: Bridgestock, 2021)

Figure 4 pictorially represents the indicators and the weightage given to each indicator. A brief description of each indicator is also provided in the figure. The results can be arranged to show the cumulative scores of individual universities in each of these categories but showing the score of individual indicators within each category is not possible [3].

- Shanghai Ranking of World Universities:** The Shanghai Ranking of World Universities, also called Academic Ranking of World Universities, was established in 2009 and uses six indicators of performance to rank universities. These indicators are related to excellence in research. The Shanghai Ranking takes into consideration universities that have produced Nobel Prize winners, Fields Medal winners, researchers who have been highly cited, papers that have been published in prominent journals like Nature or Science or when a large number of publications are indexed by the Science Citation Index or Social Science Citation Index [3].

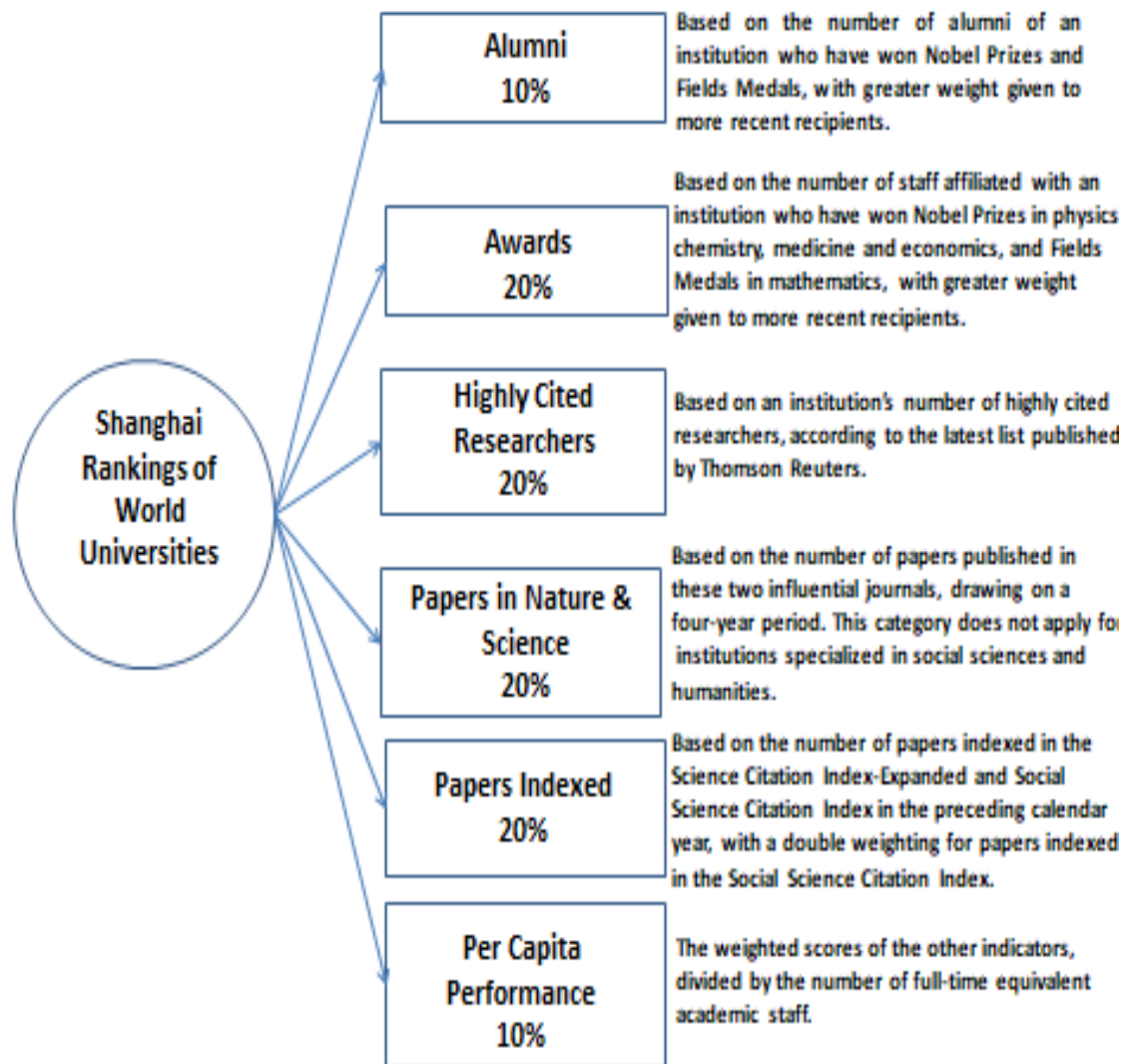


Figure 5: Shanghai Ranking (Source: Bridgestock, 2021)

Figure 5 pictorially represents the indicators and the weightage given to each indicator. A brief description of each indicator is also provided in the figure. The results can be arranged to show the cumulative scores of individual universities in each of these categories [3].

- National Institutional Ranking Framework (NIRF):** The National Institutional Ranking Framework or NIRF is a method that has been adopted by the Ministry of Human Resource Development (erstwhile Ministry of Education), Government of India to rank institutions that cater to the higher education requirements in India. This method was approved by the Ministry of Human Resource Development and was launched by the Hon'ble Minister for Human Resource Development on the 29th day of September 2015. Since then, the MHRD has been publishing the list of top Indian Universities annually [25]. The method relies on five different aspects pertaining to Indian Universities, using different weights for each category to rank universities in India. Figure 6 presents the different categories used by NIRF and the weights of each category.

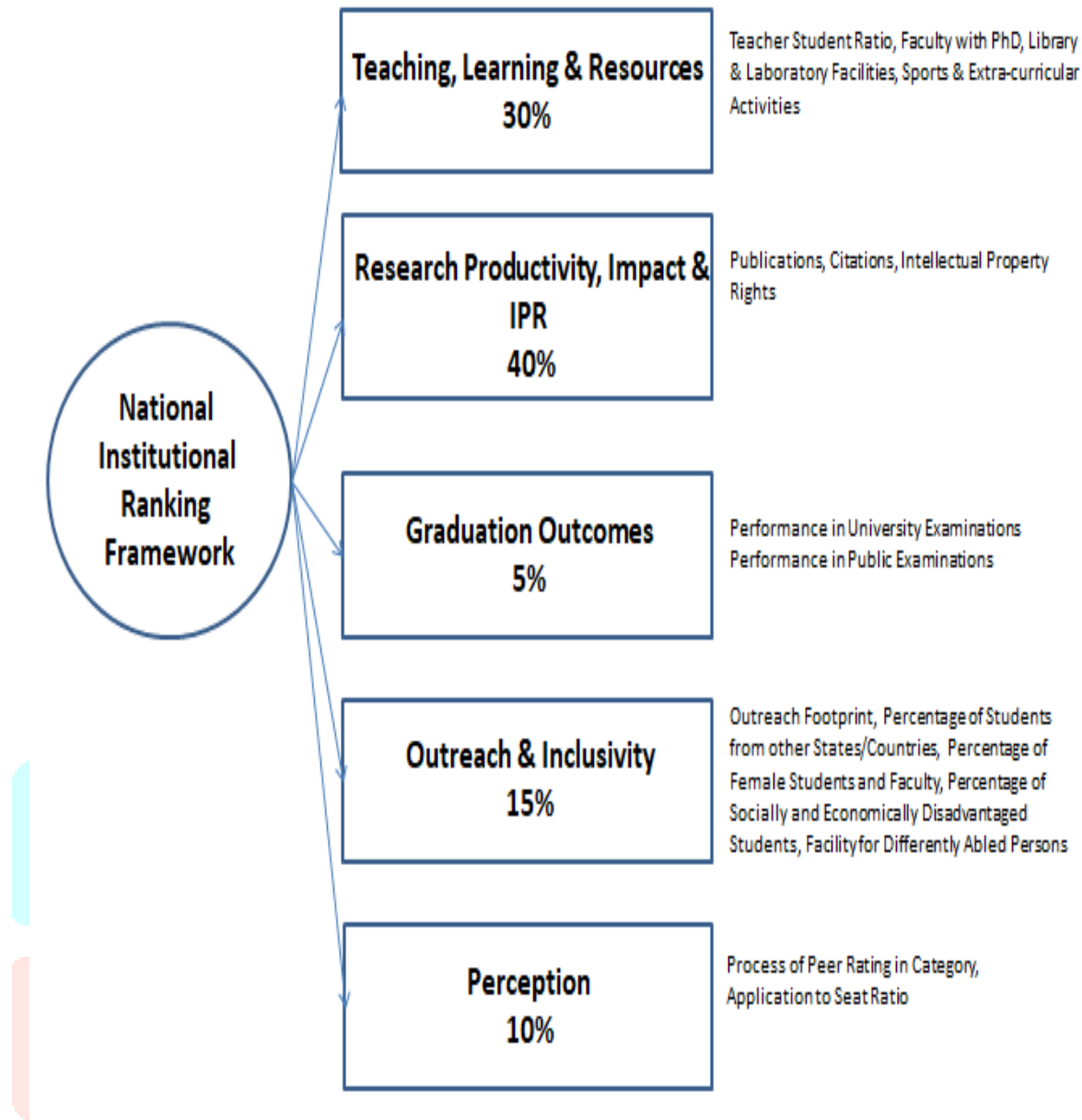


Figure 6: NIRF Ranking (Source: Yechuri, 2021)

- National Assessment and Accreditation Council (NAAC):** The National Assessment and Accreditation Council is a government agency that works in the field of assessing and accrediting institutes of higher education in India. NAAC is an autonomous agency having its headquarters in Bengaluru and receives financial help from the University Grants Commission [25]. The NAAC uses seven different assessment criteria to assess and accredit Indian Universities. Figure 7 shows the aspects that the NAAC uses for assessing and accrediting Indian Universities, and the weights are given to each aspect.

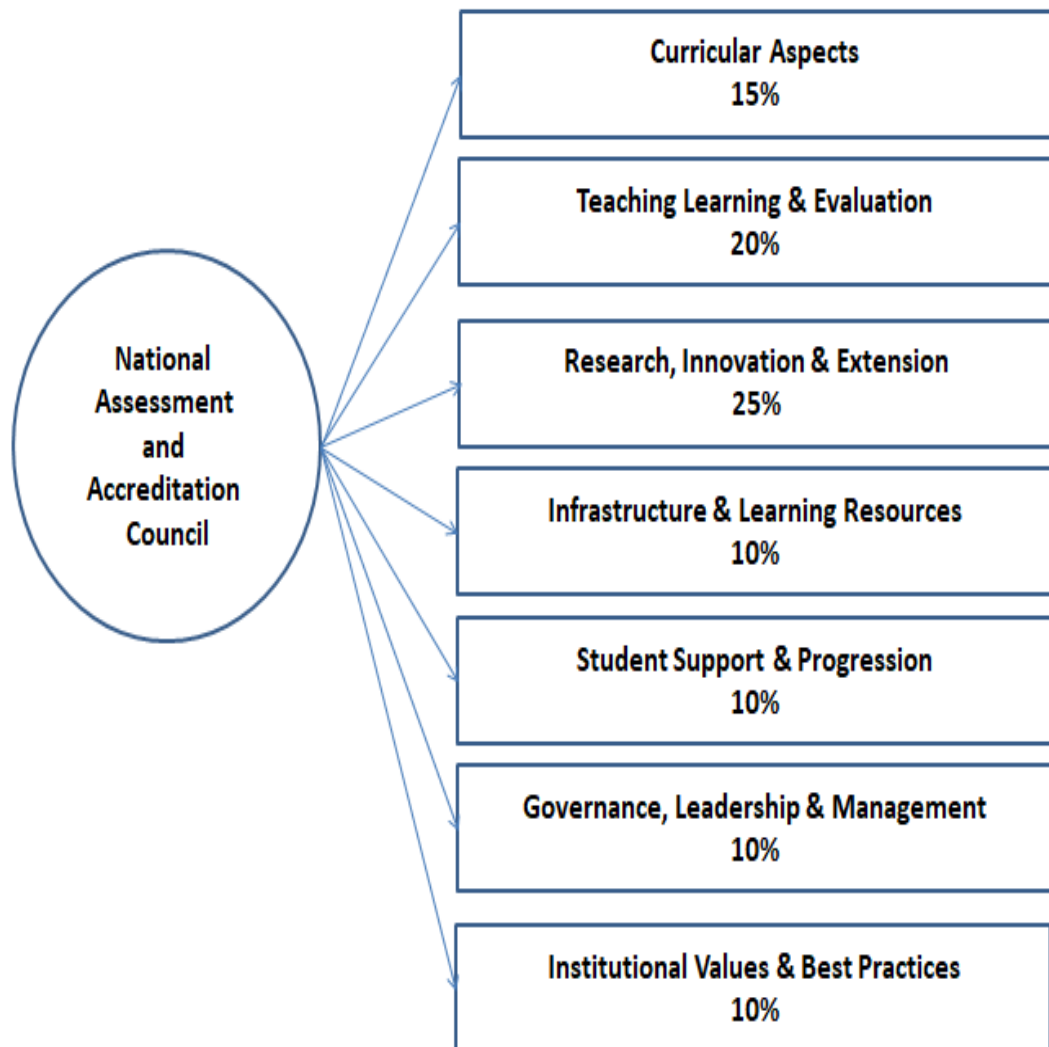


Figure 7: NAAC Assessment (Source: Ahmed, 2021)

- **Atal Ranking of Institutions on Innovation Achievements (ARIIA):** ARIIA is a joint initiative of the Ministry of Education, Government of India and the All India Council for Technical Education to rank universities in India on a systematic basis on aspects relating to Innovation and Entrepreneurship Development. The first ARIIA ranking commenced in 2019. ARIIA lays its focus on the quality of innovations rather than on quantity. The criteria chosen by ARIIA to rank universities are provided in figure 8 [12].

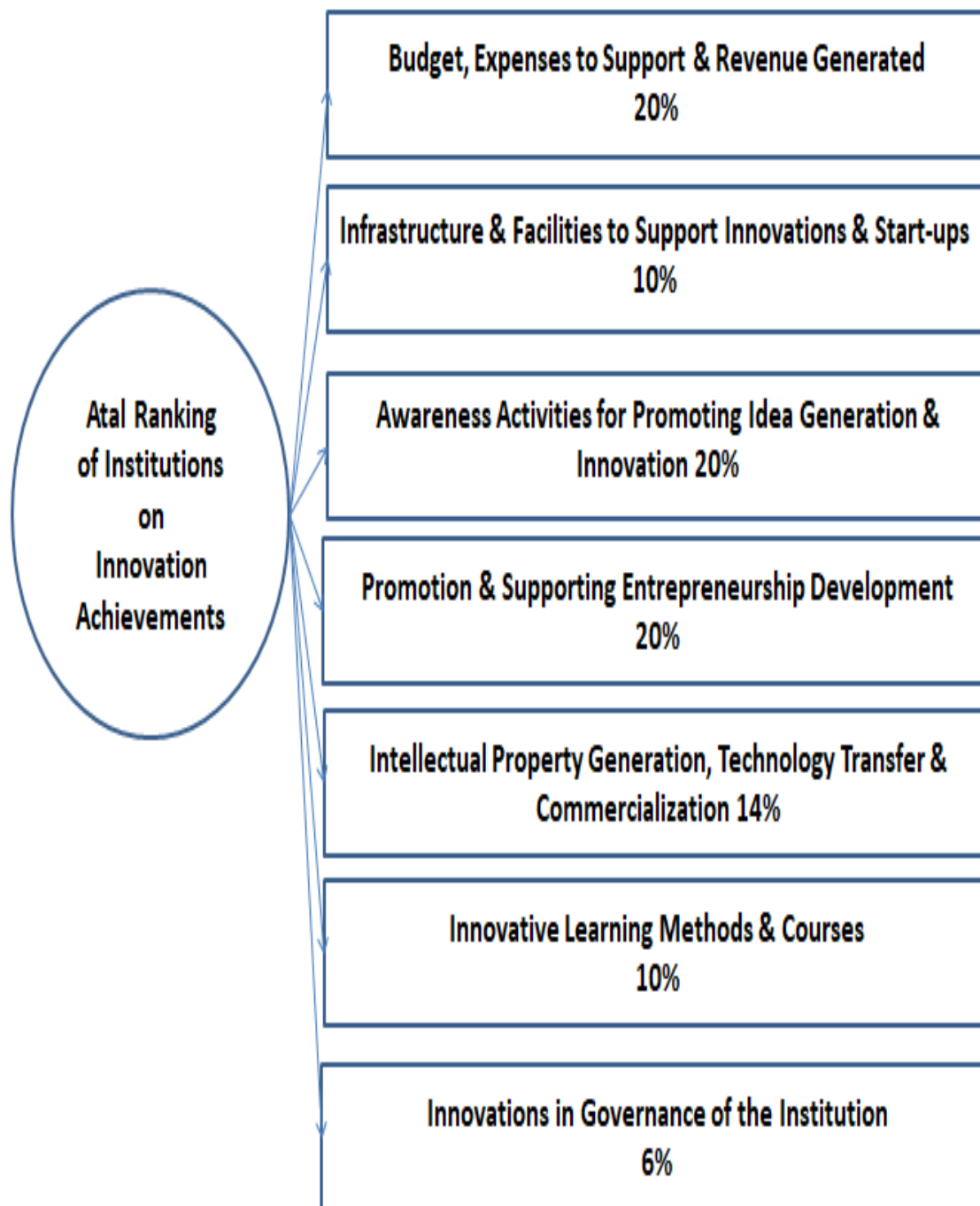


Figure 8: ARIIA Ranking (Source: Ministry of Education, 2018)

ARIIA ranks institutes of higher education in India under two distinct categories, which include technical and non-technical. While the technical category is further sub-divided into 5 sub-categories, the non-technical category is further subdivided into two sub-categories [12].

COMPARING UNIVERSITY RANKING

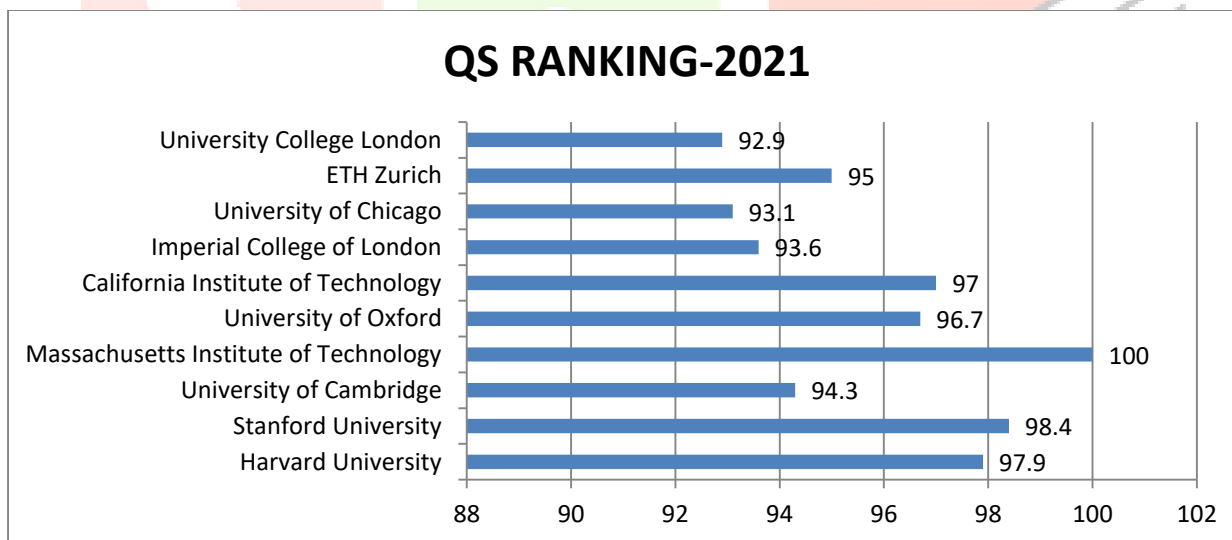
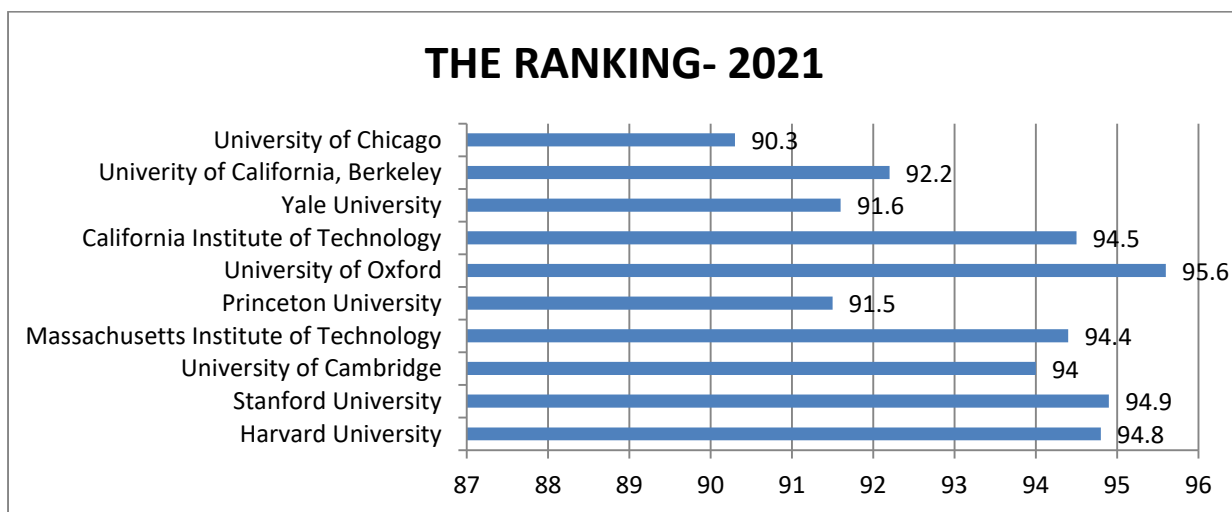


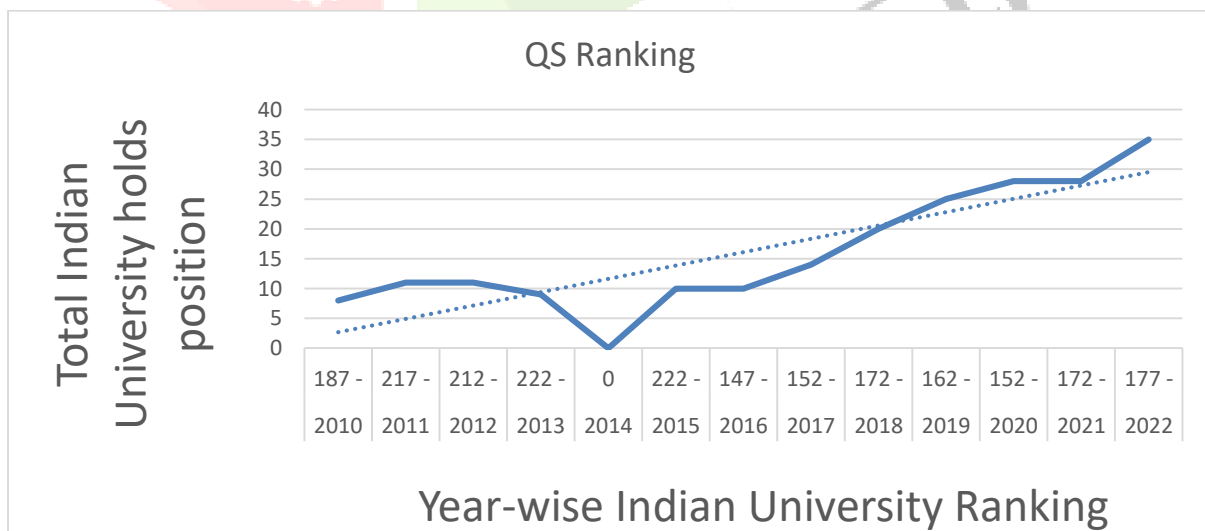
Figure 9: University Ranking by Agencies (Source: Individual websites)

Figure 9 shows the ranking of the 10 best global universities by the agencies described in the preceding sections. While Harvard University has been ranked the best university in 2021 according to the Shanghai ranking, it is ranked third by Times Higher Education and QS. Stanford University, on the other hand, has been ranked second by Shanghai, THE, and QS. Similar differences are also observed in the ranking of other universities.

Table 1: Ranking of Indian university based on QS, THE and Shanghai ranking

SN	Position	QS Ranking	Position	THE Rankaing	Position	Shanghai Ranking
01	177	IIT, Bombay	301–350	IISc, Bangalore	401-500	IISc, Bangalore
02	185	IIT, Delhi	351–400	IIT, Ropar	601-700	University of Calcutta
03	186	IISc, Bangalore		JSS Academy of Higher Education and Research	701-800	BHU, Varanasi
04	255	IIT, Madras	401–500	IIT, Indore		IIT, Delhi
05	277	IIT, Kanpur	501–600	Alagappa University		IIT, Kharagpur
06	280	IIT, Kharagpur		Thapar Institute of Engineering and Technology		IIT, Madras
07	395	IIT, Guwahati		BHU, Varanasi		JNU, Delhi
08	400	IIT, Roorkee	601–800	Institute of Chemical Technology		University of Delhi
09	501- 510	University of Delhi		Delhi Technological University		
10	561-570	JNU, Delhi		IIT, Gandhinagar		Vellore Institute of Technology

(Source: Individual websites)



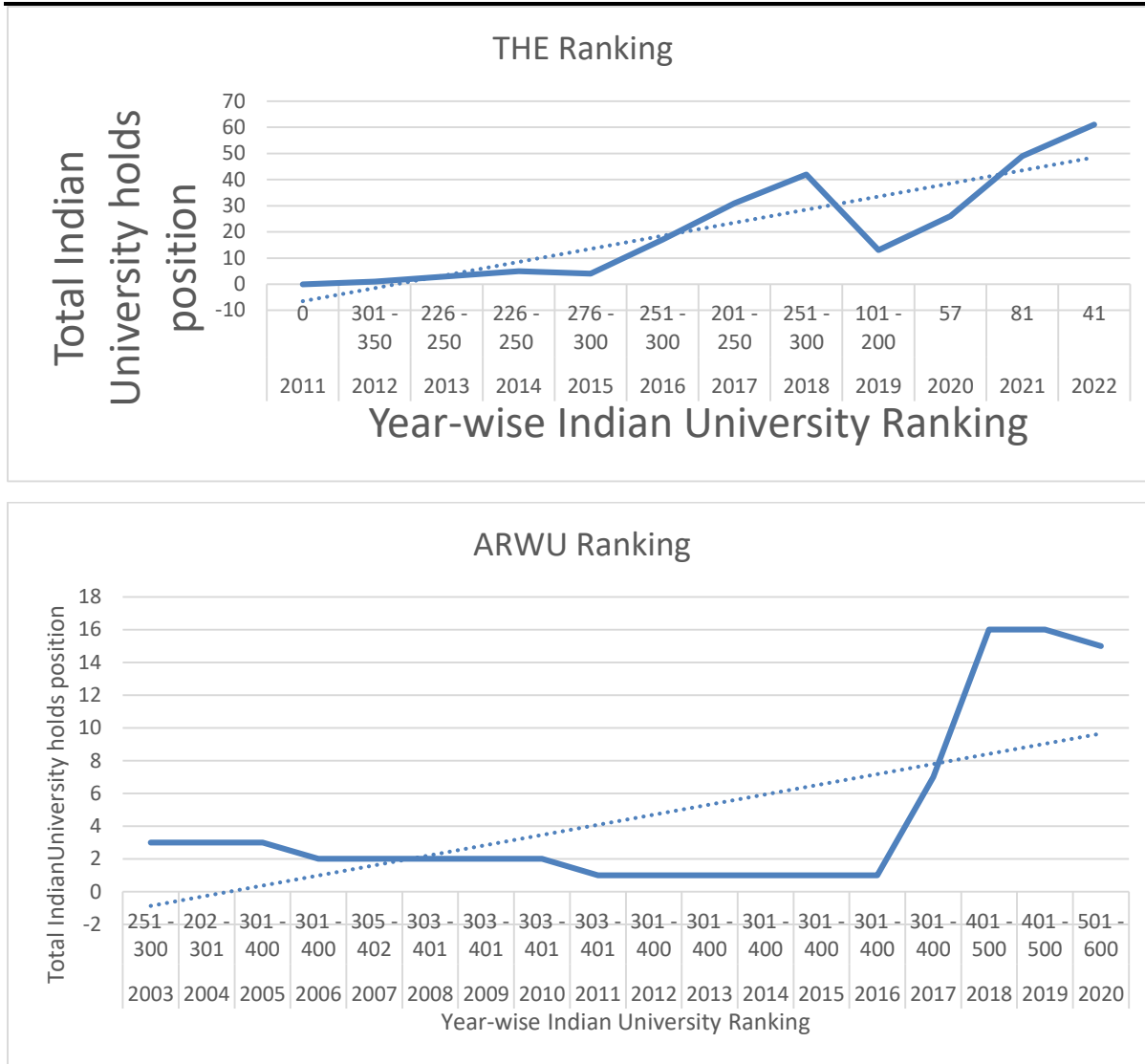


Figure 10: University Ranking by Agencies (Source: Individual websites)

The difference in the ranking of universities is due to the fact that each agency uses a different set of criteria to rank the universities. This can be understood from the fact that while Shanghai Ranking criteria do not take into consideration the reputation of the university among the researchers and employers and ranks universities on the basis of the number of Nobel Laureates produced, both Times Higher Education and Quacquarelli Symonds rank universities on the basis of their reputation [6].

Even though ranking systems are evaluating the same things, the methods used to do so are likely to differ. In the QS World University Rankings, academic reputation contributes for 40% of a university's overall score. Academics from across the globe are polled and are required to rate the research performed by other universities in order to assess this. Teaching reputation, an identical metric in the Times Higher Education World University Rankings, is calculated by requesting academics to rate the quality of instruction at institutions, and it accounts for only 15% of any university's total score. Because of this disparity, both rankings are likely to produce significantly different outcomes [6].

Table 2: University Ranking by Agencies

Rank	NIRF	ARIIA	NAAC
1	Indian Institute of Science	Indian Institute of Technology - Madras	University of Mumbai
2	Jawaharlal Nehru University	Indian Institute of Technology - Bombay	University of Pune
3	Benaras Hindu University	Indian Institute of Technology - Delhi	Jawaharlal Nehru University
4	Calcutta University	Indian Institute of Technology - Kanpur	Bangalore University
5	Amrita Vishwa Vidyapeetham	Indian Institute of Technology - Roorkee	University of Delhi
6	Jamia Milia Islamia	Indian Institute of Science	University of Calicut
7	Manipal Academy of Higher Education	Indian Institute of Technology - Hyderabad	Shivaji University
8	Jadavpur University	Indian Institute of Technology - Kharagpur	Jamia Milia Islamia
9	University of Hyderabad	National Institute of Technology - Calicut	Jamia Hamdard
10	Aligarh Muslim University	Motilal Nehru Institute of Technology	University of Jammu

(Source: Individual websites)

As observed with global ranking agencies, ranking agencies in India also differ in the criteria for ranking universities. This can be seen from the fact that while the Indian Institute of Science has been ranked first by NIRF, it is ranked sixth by ARIIA. NAAC, however, has not included the Indian Institute of Science in its list of universities. Similarly, Jawaharlal Nehru University has been ranked second by NIRF and third by NAAC.

COMPARISON OF INTERNATIONAL RANKING VS INDIAN RANKING

Indian universities lose out on perception, which accounts for about half of the weight in many international university ranking systems. Perception, according to psychologists, is the product of several inputs such as people's knowledge, memories, and expectations. While the relationship between stimuli and perception can be quantified, perception is not a separate quantity that can be measured. As a result, using perception as a key factor in ranking might easily lead to incorrect or unjustified results [11].

Citations are a fundamental metric of productivity and scientific influence used by international ranking organisations. However, studies suggest that transdisciplinary sciences, general internal medicine, and biochemistry have the largest number of citations per publication, while visual and performing arts, literature, and architecture have the lowest. We appear to have produced an unexplainable blind spot when it comes to the distinctions among subject disciplines by making citations of published papers from university strong criteria for rankings [11].

International rating organisations' methodologies are overly rigid, and they are unwilling to add new elements or adjust the weighting of existing ones. They are hesitant to use meaningful and universally fair quality and performance metrics. This is a must in order to account for the variation that exists among the colleges. Some Indian higher education institutions have even decided not to participate in the world university rankings, citing a lack of openness in the ranking criteria [11].

Comparing colleges with a single numerical value is as ineffective as comparing a civil engineer with a biologist or a linguist with a dancer because universities are complex organisations with multiple aims. As a result, the fear that such distorted global rankings may reduce university education to a commodity is a legitimate concern. Because of the inflexibility of ranking organisations, more than 70 countries have developed their own national ranking systems for higher education institutions [11].

In comparison to a world-class institution, international rating organisations are frequently blind to what it takes to develop a world-class educational system. If a country has a world-class educational system that emphasises innovation, best teaching-learning processes, and research focused on social good, and affirmative action plans for inclusive and accessible education, it will have a greater social and economic impact [11].

FLAWS IN UNIVERSITY RANKINGS

Each year, the various ranking agencies publish the list of the best global universities. The publication of these lists of the best universities is accompanied by attention, thrill and stress to students who are in the process of choosing universities for pursuing their education. The ranks of the universities do not come as a surprise for many as universities from the US and Britain take the top spots with minor modifications every year.

While the ranking of universities has a lot of merits, these have their own set of limitations. This paper discusses the major limitations of the system of ranking global universities.

- **Popularity:** The lesser-known universities are no match for the top-ranked ones. The universities that do not figure among the top 100 universities do not have the budget necessary to promote them or are unable to meet the criteria specified by the ranking agencies. Such universities are not good at everything but specialize in certain aspects [14].
- **Perceiving the difference:** While there may be a significant difference between the university ranked first, and the university ranked twentieth, there is a minor difference between the university ranked thirtieth, and the university ranked fortieth. Many of the lower-ranked universities have the same scores, and the difference is more perceived than actual [14].
- **Criteria for ranking:** Universities need to be judged on certain criteria, which include their reputation, rates of graduation, number of papers published and the citation rates, international faculties and students, reputation of the university among employers, ratio of faculty to students, industry income, number of students who have won awards, and the financial help given to the students. The different ranking agencies include a mix of the criteria mentioned above in varying proportions, suggesting that the appropriateness of ranking depends upon the types of students [14].

- **Exclusion of certain criteria:** There are aspects that students consider besides the rankings before choosing their university. However, these aspects are not considered in the ranking criteria. Aspects like what is taught beyond academics, diversity in the campus, availability of leisure activities, quality of food, love for the area housing the university, quality of teachers, providing emotional support, and having people with the same passion fall in the ambit of these factors [14].
- **Inclusion of reputation as a criterion:** Reputation is subjective. Analysis of the replies received to the question of identifying the best university reveals what the universities have already considered as famous [14].

Critics of the system of ranking universities on the basis of the criteria adopted by various agencies opine that the ranking system is flawed. Their observation is based upon the fact that [9].

- Rankings are based on faulty assumptions
- Rankings have a negative impact on the selection of educational institutes
- The criteria for rankings do not include vital data
- Rankings do not consider the mission of the university
- Rankings strangle creativity.

In his article titled University Rankings: There is room for errors and “malpractice”, Ellen Hazelkorn [10] has stated that while rankings have achieved popularity, “this is also the main source of criticism”. According to Hazelkorn, the reasons for criticism include:

- **Lack of objectivity:** Ranking agencies consider those indicators and weightings that are considered more important.
- **Priorities:** Most ranking agencies take into account variables for which there is comparable data, such as research and reputation. Other critical elements, such as student and societal participation, as well as teaching and learning, receive little or no attention. Many people believe that rankings focus too much on “proxies,” such as the number of Nobel Laureates among alumni or the amount of endowments when judging educational quality. Others assert algorithm bias, claiming that specific institutions, such as those publishing in English, are always at the top. Others point out that a university's ranking might change dramatically depending on the ranking agency.

In the words of Josh Wyner [24], Founder and Executive Director of the College Excellence Program at the Aspen Institute, “They don’t typically give colleges rewards for equity: for keeping their doors as open as possible. Nor do they look at how much students grow while they are at college. If you don’t look at where they enter or how likely they are to achieve those outcomes – given how well-prepared they were and how wealthy, they were when they entered college – you may be distorting the picture.”

FUTURE OF UNIVERSITY RANKINGS

The future system of rankings should provide joint benefits to rank holders, institutions imparting higher education, students, researchers, faculty and customers. The consequences of the system of ranking universities and the scope for improvement have been provided by the Berlin Principles. The principles state that aspects like transparency, validity of comparative data, and relevance should be included among

the criteria to assess the ranks of universities. J Shin and R Toutkoushian [16] have offered four suggestions that can help in improving the current system of ranking universities. The first suggestion advocates changing the current system of unified ranking to the system of multiple ranking. This would echo the mission, size and location of the universities. The second suggestion is to adopt a customer-based ranking from the current rank-based ranking. This would help in satisfying the different needs for ranking. The third suggestion tries to reflect regional characteristics by converting the system of global ranking to the system of regional ranking, while the fourth suggestion tries to include differences due to discipline by changing institutional ranking to discipline-based ranking.

Some ranking agencies have attempted to incorporate these dimensions into current ranking systems in order to improve them. The US News and World Report rankings offer a variety of ranks based on institutional missions, regional locations, and institutional sizes. These efforts assist readers in choosing institutions based on their core interests, such as top liberal arts universities, finest universities in their location, and so on. Customers can select indicators and apply alternative weightings based on their preferences when using the Centre for Higher Education (CHE) rankings in Germany and the Maclean rankings in Canada [16]. The real benefit of '*ranking*,' according to van Der Wende and Westerheijden [22] is not ranking, but matching.

Regional college and university rankings might pique interest since they allow institutions with similar cultural boundaries to be compared. For instance, the Times Higher Education, QS and Chosun Daily rankings (a Korean daily newspaper) exclusively included Asian colleges in its rankings. The CHE rankings are likewise regional in nature, with a concentration on Germany and a few other European countries. In addition to institutional and disciplinary rankings, global ranking systems have begun to provide disciplinary rankings. Shanghai Jiao Tong and Times QS, for example, publish disciplinary rankings [17].

The ranking agencies in India, which include the NAAC, NIRF, and ARIIA, rank institutes of higher education in India using various criteria. Ranking of Indian higher education institutes and Universities is a mammoth task, and several agencies have used different criteria to rank universities in India. This puts the ultimate consumer, the student, in a dilemma regarding the choice of university to pursue further education.

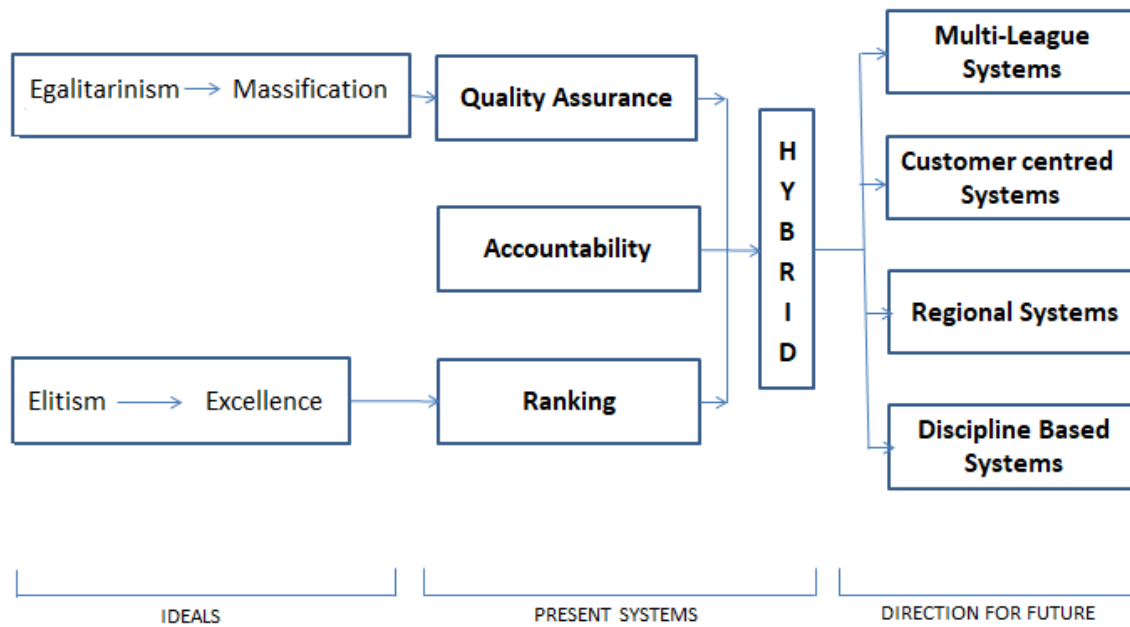


Figure 11:

Future of University Ranking (Source: Shin. and Toutkoushian, 2011)

In addition to systemic improvements in rankings, the agencies engaged in ranking institutions should explore the possibilities of merging current systems of measuring the effectiveness of organisations like measuring quality assurance and accountability. One difficulty is that different systems require distinct indicators, which can clash with one another. Furthermore, the various types of indicators used in these techniques necessitate distinct types of data, necessitating time spent by higher education institutions organising and delivering data for each system. The new system for assessing organisational efficiency should serve as a model for other institutions and give policymakers, institutional leaders, and students with institutional data from many perspectives. The new methods should help improve institutional performance while also providing customers with important information (16).

CONCLUSION

This study has discussed the criteria for ranking universities that are adopted by the ranking agencies, the importance of ranking and the flaws in the current system. This study has also provided guidelines for the agencies to be followed to rank universities. This brings us to the most pertinent question on which ranking the students should refer to before selecting their universities. Different agencies use different criteria for ranking. However, based on previous literature, this study proposes the following guidelines:

- (i) Students aspiring to join universities that have produced a high quality of research may try the Shanghai ranking.
- (ii) Students looking for universities preferred by employers and academics can look at the QS World University Rankings.
- (iii) Students trying to find universities that have a mix of both high quality of research and reputation among employers may check out the Times Higher Education Rankings.

It should, however, be noted that both Times Higher Education and QS make efforts to consider the global significance of universities.

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