



STUDY OF DELHI UNIVERSITY COLLEGES RANKED IN TOP 100 BY NATIONAL INSTITUTIONAL RANKING FRAMEWORK DECEMBER, 2019

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ABSTRACT- Education has always been highly esteemed in India, drawing inspiration from the philosophical insights of influential thinkers as R.N Tagore, M.K Gandhi, Sri Aurobindo, Krishnamurthy, and others. These great minds have played a pivotal role in shaping the educational landscape in terms of its essence, scope, and importance. The Indian Constitution, through its Fundamental Rights and DPSP, guarantees the to citizen their rights for getting education (as per the Right to Education Act 2009), marking a significant milestone for the nation and ushering in a new era in the field of education. The foundation of sustainable development lies in securing high-quality education. The establishment of the AICTE in 1945 and the UGC in 1956 highlights of visionary leadership, foresight of policymakers during those crucial years. However, ensuring the delivery of high-quality education becomes a challenge when institutions face competition both at home and abroad. Education must conform to specific regulatory standards set by governing bodies.

Keywords: Indian Education System, Educational Philosophies, Quality Education Standards.

I. INTRODUCTION

Education has always been highly esteemed in India, drawing inspiration from the philosophical insights of influential thinkers as R.N Tagore, M.K Gandhi, Sri Aurobindo, Krishnamurthy, and others. These great minds have played a pivotal role in shaping the educational landscape in terms of its essence, scope, and importance. The Indian Constitution, through its Fundamental Rights and DPSP, guarantees the to citizen their rights for getting education (as per the Right to Education Act 2009), marking a significant milestone for the nation and ushering in a new era in the field of education. The foundation of sustainable development lies in securing high-quality education. The establishment of the AICTE in 1945 and the UGC in 1956 highlights of visionary leadership, foresight of policymakers during those crucial years. However, ensuring the delivery of high-quality education becomes a challenge when institutions face competition both at home and abroad. Education must conform to specific regulatory standards set by governing bodies.

In order to excel and distinguish themselves in a competitive market, institutions must prioritize quality improvement in all aspects. This involves undergoing rigorous evaluation and assurance procedures to uphold explicit quality standards. National quality assurance organizations conduct assessments that accredit institutions and assign rankings that can elevate their current status or offer guidance for future improvements. Accreditation and recognition through rankings play a crucial role in enhancing the reputation of an educational institution, leading to benefits such as increased funding, higher student enrollment, and improved public perception. The NIRF, by the Ministry of HRD on September 29, 2015, evaluates and categorizes educational institutions across India based on various criteria including teaching quality, research output, placement success, and community involvement. NIRF covers a wide range of categories. The process employed through NIRF incorporates a diverse set of parameters approved by its Core Committee to ensure a comprehensive assessment and ranking of institutions nationwide.

Ranking fosters healthy competition among institutions, driving them to strive for excellence. Given the complexity of ranking, it necessitates seasoned experts well-versed in the Indian higher education landscape and deeply dedicated to this endeavor. This ethos is crucial as it offers valuable insights into critical areas like faculty growth, student requirements, placement enhancements, infrastructure needs,

and library and laboratory provisions, among others. By considering 16-18 parameters across five key categories, institutions are evaluated and ranked to streamline processes and boost effectiveness. These parameters, meticulously crafted with specific nuances, are globally recognized as benchmarks for assessing the quality of educational, learning, and research settings. The five parameters utilized for ranking universities and institutions are thoroughly explained. Parameter 1: Teach, Learn and Resource (TLR)

The metrics, which have a given ranking weight 0.40, evaluates different colleges based on below sub-metrics:

Doctoral students capacity who have 20 marks.

The applicable formula is “ $SS = f(NT, NE) * 20$ ”.

1. In this context, SS stands for student strength. The functions $f(NT, NE)$ observed through NIRF, with NT representing overall required intake capacity for both undergraduate and postgraduate programs of institution, NE indicating the overall of students registered in all undergraduate and postgraduate programs.

Student and faculty Ratio, particularly focusing on the faculty who are permanent, accounts for marks 30.

The applicable formula is “ $FSR = 30 * [20 * (F/N)]$ ”.

Here, FSR shows the ratio of Faculty and Student. F represents regular faculty (full time) in the institution from the recent previously year, while N corresponds to NT defined in the previously defined point.

- The combined parameter for the faculty having PhDs and having experience contained 20 marks.

The applied formula is “ $FQ = 10 * (FRA/75)$,”

$$FRA \leq 75\% \text{ and}$$

$$FQ = 10, FRA > 75\%.”$$

- Resources related to finance and their utilization contain the weight age of 30 marks.

The applicable formulae “ $FRU = 10p (BT) + 10\min (4*BC/BT, 1) + 10\min (4*BO/3BT, 1)$ ”.

FRU means Financial Resources and Utilization. BT means average amount spent by the each student from the yearly budget over the last three years, not including expenses related infra. BC represents average amount each student spent from the annual capital budget, covering costs for academic activities and resources such as library materials, workshops, new lab equipment, studios, and other specified academic needs, but excluding building expenses. BO signifies the cost of operation per student for resources of faculties and salaries of the staff, with p function representing percentile fraction. (Source: www.nirfindia.org).

- Parameter No.2: Research and Professional Practice (RP)
- Parameter having ranking weight 0.15, evaluates different colleges depends on below sub-metrics:
- The overall metric of publications has assigned 70 marks.

The applied formula “ $PU = 30 * p(P/F)$ ”

PU stands for aggregate metric for publications. P denotes the quantity of publications, determined by the weighted mean of the highest tallies from platforms as Scopus and Pub Med for the last 3 years. F represents count of nominal faculty members, computed based an FSR of 1:10.

- The Composite Metric for Publication Quality carries a value of 30 points.

The formula used is $QP = 15 * p(CC/P) + 12.5 * p(NCI) + 12.5 * p(TOP\%P)$.

In this context, QP stands for the publications quality, which encompasses the overall parameter for publications. CC, on the other hand, represents counting of citation, which includes the sum of number of citations received from the previous 3 years. P denotes the all of the publications for specific time interval, which is utilized in the calculation of PU. The formula for CC is $(0.45CCW + 0.45CCS + 0.1CCI)$. NCI, which stands for the normal index of the citation, reflects the mean citation count over the past 3 years and is determined by the formula $(0.5NCIW + 0.5NCIS)$. Lastly, TOP25 denotes the citations in the 25 top percentile, based on the mean over the last 3 years, and is calculated as $(0.5TOP25PW + 0.5TOP25PS)$. (Source "www.nirfindia.org")

Parameter 3: Outcomes of Graduation (GO)

Parameter, with weight 0.25, evaluates various colleges based on the derived parameters like:

- A total of 40 marks are assigned for overall percentage in Placement and for Higher Studies

Calculation is done using the formula $GPHE = 30 * (Np/100 + Nhs/100) + 10p3$.

- Here, GPHE represents total percentage for placement. Np indicates student's percentage in undergraduate and postgraduate levels that have secured placement through campus or centralized placement over the last 3 years. They have percentage of the graduating students at both levels that have pursued higher studies over the past 3 years. p3 similar to p(NE), where NE means number of enduring companies established in the last 5 years.

- The parameter for Examinations for Universities is worth 40 marks.

The applied formula $GUE = 15 * \min[(Ng/80), 1]$.

GUE is the metric used to evaluate examination of university and Ng represents the proportion of the students, determined by the allowable intake and averaged of the last 3 years. This percentage encompasses students who have successfully completed their university exams within the specified timeframe for their respective programs. Median Salary carries of marks 20.

- The applied formula $GMS = 20 * p(MS)$.

- Here, GMS represents the median salary metric, while MS denotes median salary for graduate student of an institution.

(Source: "www.nirfindia.org")

- 4th Parameter: Inclusivity and Outreach (IO)

- Above parameter having ranking weight with 0.10, evaluates different colleges depending on given sub-parameters:

- The RD (Region Diversity) parameter, which considers the proportion of students from different states or countries, is given a weight of 30 marks.

- In this parameter, students from other states are given more importance than those from other countries. The calculation is done using the formula $RD = 25 * (\text{all students fraction from different states}) + 5 * (\text{fraction of all students from different countries})$.

- The Gender Diversity parameter is allocated 30 marks. Applied formula for given parameter is $WD = 10 * (NWS/50) + 10 * (NWF/20) + 5 * (NWA/2)$.

- Here, WD denoted the % of women. NWF represents female faculty percentage, NWS denotes the percentage of female students, and NWA represents number of women in senior roles in administration, such as deans, heads of institutes, and HOD'S.

Socially & Economically Disadvantaged Students are allocated marks.

Applied formula "ESCS = 25 * (necs/50)".

The ESCS denotes is used to identify students having econosocially disadvantaged, while Necs represents the % of the like students.

The formula "PCS = 20 marks" is utilized to denote the provision of facilities for physically disabled students. The Perception (PR) parameter, with weight of rank of 0.10, assesses colleges based on sub-parameters such as Peer Perception, which is allocated 100 marks and includes feedback from employees and research investors. (Source: "www.nirfindia.org").

The criteria for this parameter are met through the implementation of a survey that encompasses a diverse group of professionals from reputable organizations, including government officials, private funding agencies, and leaders of NGOs. Lists are then compiled based on specific criteria such as sectors and regions, and are regularly updated. Each parameter is assigned a specific weight, with sub-headings also having their own weight distribution within each category. These weightings are determined with particular disciplines in mind and have varied annually since the introduction of the NIRF in 2015. Institutions are required to gather relevant data from sources of third-party, which verify very easily, and a parameter which computes a core value in each sub-heading. The final score is derived from the weightings allocated to each heading, with a maximum attainable value of 100.

NIRF utilizes an Online Data Capturing System to collect essential information from accredited institutions. These institutions input their data into the system using authentication details given by NIRF. The system requires data to be in given format, which allows to compute ranking criteria for every parameter & maintaining data accuracy.

II. RESEARCH METHODOLOGY

The NIRF 2019 was disclosed on the April 9, 2019, by honorable Mr RN Kovind, the President of India. The rankings for NIRF were issued in total 9 categories, which include, Pharmacy, Management, Engineering, Architecture, and Overall, all other Universities. Our study focuses on evaluating the NIRF rankings specifically within the college category. We conducted a comparison of the rankings of 27 colleges from the University of Delhi that were among the top 100 colleges in India for 2019, with their scores on various parameters from 2018. The objective is to analyze and interpret how these colleges emphasized specific areas, taking into account the different parameters in the NIRF rankings, which led to their improved positions from 2018 to 2019. Table A.1 in the The appendix showcases the top 27 colleges affiliated with the University of Delhi, which were ranked among the top 100 colleges in India based on the report of NIRF 2019. Tables A.2 to A.5 outline a comparison of the scores achieved by these top 27 colleges from the University of Delhi for the years 2019 and 2018. They outline changes in these scores in the previous year and assess their weighted impacts.

III. ANALYSIS AND INTERPRETATION

- The primary factor, Teaching, Learning & Resources, carries the most weight. In the last couple of years, there has been an increase in colleges' rankings due to improvements in their Faculty-Student Ratio (FSR), particularly by focusing on permanent faculty, and by increasing the number of faculty members with PhDs and experience. Atma Ram Sanatan Dharma College excelled in this aspect in 2019. Furthermore, institutions like Gargi College, Shri Venkateswara College, Jesus and Mary College, Maitreyi College, and Shyam Lal College have shown significant improvement in their rankings by enhancing their scores in this area. Increasing operational expenses per student can also contribute to higher rankings in this criterion.

- The Graduation Outcomes criterion, which is the third one, holds the second highest weight. Colleges have managed to boost their rankings in the last two years by enhancing their parameter of the University Evaluation (GUE). Therefore, the target should be on increasing the % of participants who have passed their university exams within the specified timeframe for their programs, as a fraction of the approved intake averaged over the past three years. Lady Shri Ram College topped the list in this aspect in 2019, followed by Jesus and Mary College. Moreover, institutions like Lady Shri Ram, Hansraj, Deen Dayal Upadhyaya, Shri Venkateswara College, Shri Guru Tegh Bahadur Khalsa College, Shyam Lal College, and Shivaji College have significantly work on their rankings by excelling in this area compared to previous years..
- The weight of the fourth criterion, Outreach & Inclusivity, is the lowest among the criteria. Colleges have improved their rankings in the past two years by focusing on Region Diversity (RD) and services offered to abnormal Students It is important to increase the number of students from different states and countries. Hansraj College received the highest score in this category for 2019. Moreover, institutions like Hindu College, Atma Ram Sanatan Dharma College, Lady Irwin College, Jesus and Mary College, Keshav Mahavidyalaya, Hansraj College, and Sri Ram College of Commerce have shown significant improvement in their rankings by excelling in these areas compared to previous years.
- The fifth element, Perception, carries the smallest weight but is essential in determining rankings. Despite lower scores in Research and Professional Practices, some colleges have achieved higher overall rankings due to exceptionally high perception scores. St. Stephens College received the top ranking in this category for 2019. Additionally, over the past two years, institutions like St. Stephens and Hindu College have significantly improved their perception scores, leading to notable advancements in their overall rankings and Results
- Colleges can improve their rankings by focusing on Faculty-Student Ratio and increasing faculty with PhDs and experience. Another way to enhance their position is by improving operational expenses per student. This can be achieved by increasing expenditure on activities such as seminars and conferences. Maintaining detailed records of sponsorship amounts spent on academic and cultural events can significantly raise operational expenses per student, thereby contributing to a higher overall ranking for the college
- In order to improve the score in this aspect, it is important to promote the enrollment of new faculty members in Ph.D. programs. Moreover, there needs to be a rise in the number of top-notch publications by faculty. College administrators could motivate these endeavors by acknowledging and rewarding faculty members who participate in and support these endeavors.
- In order to improve the score for this factor, it is vital to ensure structured access to data and information on alumni admissions to universities, as this plays a key role in graduation results. Furthermore, details on the post-graduation placements of students are also important. Hence, the creation of a well-organized alumni database is essential for effective data management.
- To boost the score in this parameter, it is essential to improve the facilities offered by the college for students with physical disabilities.
- Analyzing the top strategies implemented by prestigious universities and different factors affecting perception, including peer evaluations, public sentiment, and competitive position, may help enhance the rating in this category.

IV. SCOPE OF FURTHER RESEARCH

1. A collaborative effort among colleges could lead to the identification and recommendation of best practices for stakeholders, ultimately improving the overall rankings of each institution. This partnership would not only benefit the participating colleges but also contribute to the University of Delhi's quest for higher rankings among Indian universities in the future.
2. Research focusing on comparing various ranking parameters and frameworks could pave the way for the development of a customized framework that caters to the unique needs and circumstances of

different institutions. With institutions varying in size and areas of expertise, there is a growing demand for personalized ranking systems.

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