Evaluating the Impact of NIRF Rankings on Indian Universities: A Five-Year Analysis

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Abstract

NIRF (National Institutional Ranking Framework) has had a profound influence on the higher education institutions, academicians and the students as it provides a structured methodology of ranking institutions in an objective manner with verifiable parameters. Since the launch in 2016 by Ministry of Education, Government of India, policy makers and academic researcher have had keen interest, given the importance of this framework in the higher education sector. This study examines the impact of NIRF on the participating universities over the last 5 years (2019-2024) and examine the importance of all five NIRF parameters, i.e. Teaching, Learning and Resources (TLR), Research and Professional Practice (RPC), Graduation Outcomes (GO), Outreach and Inclusivity (OI), and Perception (PR). The study indicates that there has been a positive impact of NIRF on universities as the average scores of all the five parameters had increased over the years. TLR, RPC and GO had significant impact on the change on NIRF ranking for the universities but RPC score will continue to be the most influential parameter in determining the change in rankings of the universities in the top 100 NIRF ranking. Based on historical data, a mathematical equation was formulated for guiding universities outside top 100 NIRF ranking to enter the top 100 NIRF ranking.

Keywords: NIRF, Research, RPC, Universities, ranking

1. Introduction

In 2015, Ministry of Education, Government of India, launched the National Institutional Ranking Framework (NIRF) to create a transparent and comprehensive ranking system for higher education institutions (HEIs) in India. NIRF provides ranking every year for the participating institutions in various groups (overall, universities, engineering, management, pharmacy and others) which help students and parents in making informed decisions regarding their future. NIRF also aims to promote excellence in higher education by encouraging transparency and reliability of data, innovation, healthy competition and consistent improvement. Consequently, NIRF ranking has also impacted the way the institutions and academicians operate.

NIRF ranking is based on the score obtained from the five different parameters, i.e. Teaching, Learning and Resources (TLR), Research and Professional Practice (RPC), Graduation Outcomes (GO), Outreach and Inclusivity (OI), and Perception (PR). Each of these five parameters are ranked out of 100 and given certain weights based on the importance of the parameters.

Despite the wide acceptance of NIRF, there has been some critique. Ali⁸ highlighted the sensitivity of NIRF ranking and NK *et al.*¹ talks about the over reliant on the RPC scores. This study has also identified the importance of RPC scores and the over reliant of the ranking change on RPC scores, compared to any other parameters.

While most studies have been conducted to understand the NIRF ranking impacts on a single year, there is little understanding of the impact of NIRF over a longer period. It is important to study the long-term impact of NIRF, as a multi-year data helps:

- i. Identify performance trends—what's improved, remained stable or declined. Hence universities can fine tune their policies for academicians, hiring faculties and infrastructure development.
- ii. Students and parents can make more confident decisions. Universities who continue to rank high can be trusted over one-year high performance.
- iii. Policy makers also need to look at longitudinal data to understand if the intended impact of the NIRF ranking has been established.

Section 2.1 highlights the gap of long-term impact of 'NIRF ranking' in the existing research articles. In order to address this gap, the current study has been done to understand the impact of NIRF on the universities over the past five years (2019 to 2024). In this study the universities have been categorized in different category (Improved, Stable, Declined) based on the change in rank over the five years period. Details of the categorization is given in section 3.4.

The current study also has tries to identify the most important parameter in the NIRF ranking (Objective 3) and the projected minimum score required to enter top 100 university rankings (Section 4.4).

The rest of the paper is organized as follows. Section 2 presents a literature survey. Section 3 discusses the research methodology and objectives of the study. Section 4 details the data analysis and interpretation. Section 5 summarizes the outcomes and findings of the study and the conclusion of the study is compiled in section 6.

2. Literature Review

There has been a growing interest from the academicians and researchers toward NIRF to investigate the impact of different parameters, methodology and performance of universities. Kumar *et al.*⁴, has conducted a study to understand the relationship between research output and NIRF ranking of universities. Mukherjee³ offered a case study-based evaluation of central universities, highlighting the critical importance of the "Research and Professional Practice (RPC)" criterion in ranking assignment. Kumar *et al.*¹⁶ performed a study to understand the relationship between the academic library funds and NIRF rankings, and it was found that higher ranked universities have higher library funds.

Vasudevan *et al.*⁵, have compared NIRF ranking with existing similar institutional accreditation frameworks and suggested a common ranking and accreditation framework which would simplify the whole process. Das *et al.*¹⁰ have suggested an alternative ranking system using fuzzy logic. Aithal *et al.*¹⁴ designed an ABCD analytical framework for ranking systems was introduced and it was compared with the NIRF model, promoting multi-dimensional assessments.

Brahma *et al.*¹¹ conducted a webometric study to assess library website performance in NIRF-ranked institutions, showing indirect digital presence on perception indicators. Some study⁸ conducted a systematic and sequential study to understand the high sensitivity of the NIRF ranking framework.

2.1. Gap and Justification

Despite an extensive study in this area, there are very few literature articles published to understand the long-term impact of NIRF on the participating institutions. In this study we have reviewed the performance of the universities over the last 5 years. Although Research and Professional Practice (RPC) seems to be an important parameter as per multiple studies¹, most of these studies was done for a single year but the significance of RPC or any other parameter over the longer time-period is yet to be determined. Limited studies have been done to help universities outside the top 100 NIRF ranking to develop strategies in improving their ranking to enter the top 100 rankings.

3. Research Methodology and Objectives

Secondary data of all the universities from 2019 to 2024 was taken from the NIRF website for this study. The database included the names of the university, overall score, rank and score of the five parameter (TLR, RPC, GO, OI and Perception) which contributes toward NIRF ranking. Even though the NIRF ranking data was available from 2016, we have considered data only from 2019 as the nomenclature used for universities were very different before 2019. So, in order to reduce any type of error in data analysis, we have considered NIRF ranking data only from 2019.

3.1. Statistical tools and methods

Microsoft Excel was used for doing simple descriptive analysis, creating table and graphs. Jamovi software was used for doing the ANOVA. Şahin *et al.*¹⁷ has explained Jamovi as a free, open-source, user-friendly statistical software designed especially for users in the social sciences.

As per St, L., & Wold¹⁸, ANOVA helps researchers to assess the significance and strength of models—particularly in multivariate analysis and chemometrics - by partitioning and analyzing variance. ANOVA is a mathematical technique used to decompose the total variability in a dataset into systematic variation and random variation. It is used to compare the means of three or more groups to see if at least one group mean is different from the others.

3.2. Criteria for selection of universities

There was a total of 140 unique universities who were ranked in top 100 NIRF ranking over the time period 2019 to 2024. For our research, we had to identify those universities whose rank was under 100 in each of those six years. Since there were many universities whose ranking were not available in all the six years (i.e. 2019-2024), we have considered 64 universities for which the data was available in all the six years. Furthermore, two universities were dropped off from the 64 list as one of the parameters' score in 2019 was zero. This was necessary as the study required to measure change in score percentage from the base year 2019. These 62 universities with their overall score, rank and score of all the five parameter (i.e. TLR, RPC, GO, OI and Perception) was considered for the study.

3.3. Weighted Score

In NIRF ranking initial score for each parameter is given out of 100 and a weightage of 0.3 for TLR, 0.3 for RPC, 0.2 for GO, 0.1 for OI and 0.1 for Perception is considered. In this research a weighted score for individual university has been considered such that the combined maximum score of TLR, RPC, GO, OI and Perception is 100.

3.4. Categories of universities

The selected 62 universities were further classified into three categories, i.e. Improved, Stable and Declined category. This categorization was done to identify any prominent patter. Table 1 highlights the category name and the conditions for the same.

Table 1: Definition and categorization of 62 universities into Improved, Declined and Stable

Category Name	Number of universities	Definition
Improved	14	Universities whose rank have improved by 10 or more ranks from 2019 NIRF ranking to 2024 NIRF ranking.
Declined	23	Universities whose rank have declined by 10 or more ranks from 2019 NIRF ranking to 2024 NIRF ranking.
Stable	25	Universities whose rank have neither improved or declined by 10 or more ranks from 2019 NIRF ranking to 2024 NIRF ranking.
Total	62*	

^{*}Detail description of these 62 universities along with their categorization is given in Table 11 under Annexure

3.5.Objective of the study

Objective 1: To identify universities whose rank has improved, declined and remained stable (definition given in Table 1) over the past five years and identify any prominent patterns.

Objective 2: To investigate the impact on the NIRF parameters for improved, declined and stable category universities over the past five years.

Objective 3: To identify the most important parameters which impact the change in NIRF rankings.

Objective 4: To identify minimum score required for universities to enter the top 100 NIRF ranking.

3.6. Hypothesis

In order to test the Objective 2 of the study, the following five null hypothesis has been identified:

- H₀1: There is no significant difference in change of TLR score in last five years across the three different categories.
- H₀2: There is no significant difference in change of RPC score in last five years across the three different categories.
- H₀3: There is no significant difference in change of GO score in last five years across the three different categories.
- H₀4: There is no significant difference in change of GO score in last five years across the three different categories.
- H₀5: There is no significant difference in change of Perception score in last five years across the three different categories.

4. Data Analysis and Interpretation

4.1. Overall Analysis

Over the period from 2019 to 2024, the average overall score of the 62 universities has increased at a 2.6% CAGR (Table 2). The universities that are in Improved category has a CAGR of 5% and the Stable category has a CAGR of 2.6%. Interesting, for the Declined category the CAGR is positive and is 1.3%. We can conclude from the above information that in order to maintain the Top 100 NIRF ranking, the universities need to continuously improve.

Interestingly, most of the universities with higher ranks have been able to maintain their position. This can be seen in the box plot (Figure 4), where the median rank of stable category university for the period 2019 to 2024 has remained constant at 19 rank.

Decline and improvement in ranking has happened in the lower half. The median rank of Improved category university for the period 2019 to 2024 has ranged from 31.5 to 57 rank (Figure 2). The median rank of Declined category university for the period 2019 to 2024 has ranged from 29 to 53 rank (Figure 3).

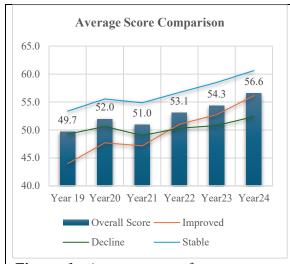


Figure 1: Average score for universities (2019 to 2024) for overall, improved, decline and stable category

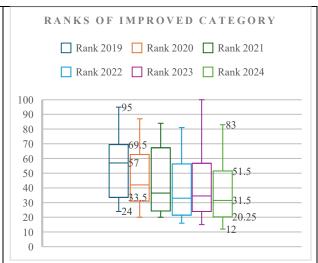


Figure 2: Rank of Improved category universities (2019 to 2024) showing an improving trend

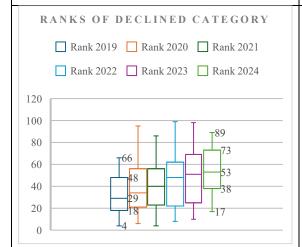


Figure 3: Rank of Declined category universities (2019 to 2024) showing decline in ranks

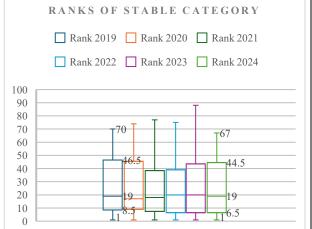


Figure 4: Rank of Stable universities (2019 to 2024) showing a stable trend

Table 2: Average Overall score for universities from 2019 to 2024

Average Scores	2019	2020	2021	2022	2023	2024	CAGR
Overall Score	49.7	52.0	51.0	53.1	54.3	56.6	2.6%
Improved	44.0	47.7	47.2	51.0	52.7	56.1	5.0%
Decline	49.2	50.6	49.0	50.3	50.8	52.4	1.3%
Stable	53.4	55.5	54.9	56.7	58.5	60.6	2.6%

^{*}CAGR stands for Compound Annual Growth Rate

For measuring the CAGR% in table 2, the following formula was used:

CAGR %= $[\{(Ending Value / Beginning Value) \land (1/n)\} - 1] \times 100\%$

Where:

- Ending Value = 2024 score
- Beginning Value = 2019 score
- n = number of years (i.e. 5)

Based on the Table 2 data, universities who wants to improve their ranking by 10 ranks or more in next 5 years should target to grow their overall score at 5% CAGR. A simplified equation (Eq1) is given below which universities in NIRF 100 ranking can use to predict their targeted overall scores as per their five-year plan.

Targeted Overall Score in 5th year = [Current Score $x \{(100+CAGR)\%\}^{(5)}]$ -- (Eq1)

Here CAGR can be selected from the Table 2 based on the expected outcome (i.e. to be in Improved, Decline or Stable category). Eq1 can be used for making the plan for next five years only, as the historical data taken to understand the change is for the last 5 years (i.e. 2019-20, 2020-21, 2021-22, 2022-23, 2023-24).

4.2. Parameter wise analysis for Improved, Stable and Declined category

Out of all the parameters of NIRF ranking, major score improvement has happened in Perception. As highlighted in Table 3, Perception score has improved by 16.4% CAGR overall, with Improved category universities improving the score by 27.6% CAGR, Stable category universities improving the score by 12.4% CAGR and Declined category universities improving the score by 16.9% CAGR. Interesting to note here is the average Perception is still at 3.9 (out of maximum 10) as shown in Table 4. This implies that we may continue to see major improvements in this category for the universities in Top 100 ranking as there is still rooms for improvement (Figure 5 clearly illustrates this point).

The second most improved parameter is RPC, and the overall score has improved by 5% CAGR. Improved category universities increased their RPC score by 11.3% CAGR, Stable category universities improved their RPC score by 5.3% CAGR and Declined category universities improved their RPC score by 1.3% CAGR. The average RPC category score is still at 10.9 (out of maximum 30) as shown in Table 3. This implies that we may continue to see major improvements in this category for the universities in Top 100 ranking as there is still room for improvement (Figure 5 clearly illustrates this point).

TLR score in the last five years has improved by 1.2% and the improvement in Improved, Declined and Stable category is 2.8%, 0.3% and 1.2% respectively. GO score in the last five years has improved by 1% and the change in Improved, Declined and Stable category is 2.6%, 0.1% and 0.9% respectively. OI score in the last five years has improved by 1.5% and the change in Improved, Declined and Stable category is 2.2%, 1.1% and 1.5% respectively.

In conclusion the CAGR growth in TLR, GO and OI is below 1.5%, which suggest that the NIRF ranking has done very little to impact these areas in the universities since 2019. One of the possible reasons for this is the already high scores for these categories in 2019, which is highlighted by the high percentage score (~ 60% as per table 5) for TLR,GO and OI. This implies that there is very small scope for improvements in this category for the universities in Top 100 ranking (Figure 5 clearly illustrates this point).

Table 3: Category wise CAGR for time period 2019-2024

CAGR%	Overall	Improved	Declined	Stable
TLR	1.2%	2.8%	0.3%	1.2%
RPC	5.0%	11.3%	1.3%	5.3%
GO	1.0%	2.6%	0.1%	0.9%
OI	1.5%	2.2%	1.1%	1.5%
PERCEPTION	16.4%	27.6%	16.9%	12.4%

 Table 4: Category wise average score in 2024

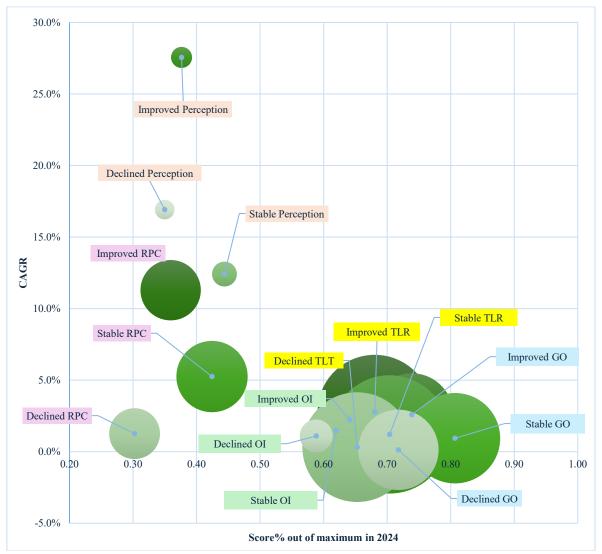
Score in 2024	Overall	Improved	Declined	Stable
TLR	20.4	20.4	19.6	21.1
RPC	10.9	10.8	9.1	12.7
GO	15.2	14.8	14.4	16.1
OI	6.1	6.4	5.9	6.2
PERCEPTION	3.9	3.8	3.5	4.4

Table 5: Category wise average score as a percentage of maximum possible score in 2024

Score% out of maximum in 2024	Overall	Improved	Declined	Stable
TLR	68%	68%	65%	70%
RPC	36%	36%	30%	42%
GO	76%	74%	72%	81%
OI	61%	64%	59%	62%
PERCEPTION	39%	38%	35%	44%

Table 6: Category wise average score as a percentage of maximum possible in 2019

Score% out of maximum in 2019	Overall	Improved	Declined	Stable
TLR	64%	59%	64%	66%
RPC	29%	21%	28%	33%
GO	72%	65%	71%	77%
OI	57%	57%	56%	58%
PERCEPTION	18%	11%	16%	25%



Size of the bubble = Average weightage score in 2024 NIRF ranking.

How to interpret the figure? Eg.: For Stable RPC, score% is 0.42, CAGR is 5.3% and size is 12.7. It means that the average score of RPC for Stable category is 12.7 and is 42% of the maximum achievable score (i.e. 30). Also, for the stable category universities the average RPC score has improved at 5.3% for the last 5 years.

Figure 5: CAGR, Average score and Score% (out of maximum) for Category & Parameter combination

4.3. Analysing the significance of TLR, RPC, GO, OI and Perception score change in ranking

In order to identify the significant, one-way ANOVA statistical test was conduct.

Table 7: ANOVA table comparing significance of parameter score change on Decline,

Improved and Stable category universities

Change in Parameter scores	Category	N	Mean	SD	F-value	p-value	Null Hypothesis
	Declined	23	0.01991	0.0515			
RPC Change	Improved	14	0.11666	0.0685	11.55	< 0.001	Rejected
C	Stable	25	0.07209	0.0675			· ·
	Declined	23	0.01167	0.0177			
OI Change	Improved	14	0.0237	0.018	1.94	0.159	Failed to reject
8	Stable	25	0.01559	0.0184			•
	Declined	23	0.00374	0.0151			
TLR Change	Improved	14	0.02945	0.0281	5.8	0.007	Rejected
	Stable	25	0.01392	0.0182			-
	Declined	23	0.00176	0.0165			
GO Change	Improved	14	0.02735	0.0254	5.77	0.008	Rejected
	Stable	25	0.01008	0.0157			
	Declined	23	0.23559	0.1875			
Perp Change	Improved	14	0.34366	0.2085	1.26	0.296	Failed to reject
	Stable	25	0.25687	0.2542			

4.3.1. Teaching, Learning and Resources (TLR)

The p-value for TLR was less than 0.05 (i.e. 0.007) in one way ANOVA test (Table 7), so we rejected the null hypothesis.

 H_01 : There is no significant difference in change of TLR score in last five years across the three different categories.

So, there is a significant difference in change of TLR score in last five years across the three different categories. In other words, TLR score change has significantly impacted the change in ranking.

4.3.2. Research and Professional Practice (RPC)

As per the one way ANOVA statistical test, the p-value for RPC was less than 0.05 (i.e. <0.001), so we rejected the null hypothesis.

 H_02 : There is no significant difference in change of RPC score in last five years across the three different categories.

So, there is a significant difference in change of RPC score in last five years across the three different categories. In other words, RPC score change has significantly impacted the change in ranking.

4.3.3. Graduation Outcomes (GO)

The p-value for GO was less than 0.05 (i.e. 0.008) in one way ANOVA test (Table 7), so we rejected the null hypothesis.

 H_03 : There is no significant difference in change of GO score in last five years across the three different categories.

So, there is a significant difference in change of GO score in last five years across the three different categories. In other words, GO score change has significantly impacted the change in ranking.

4.3.4. Outreach and Inclusivity (OI)

The p-value for TLR was more than 0.05 (i.e. 0.159) in one way ANOVA test (Table 7), so we failed to reject the null hypothesis.

 H_04 : There is no significant difference in change of GO score in last five years across the three different categories.

In other words, OI score change do not influence the change in ranking.

4.3.5. Perception (PR)

Although Perception score has improved in the last five years, there is no significant difference (i.e. 0.296) in the change of perception score between Improved, Stable and Declined category universities. Since the p-value for Perception was greater than 0.05 (i.e. 0.296) in one way ANOVA test (Table 7), we failed to reject the null hypothesis.

 H_05 : There is no significant difference in change of Perception score in last five years across the three different categories.

In other words, PR score change do not influence the change in ranking.

4.4.Minimum overall score required to enter the top 100 NIRF ranking

Table 8 highlights the minimum score that was required for universities to enter the top 100 NIRF ranking since 2019. Using this information in MS Excel, line chart and trendlines were drawn. A linear regression equation (Eq2) was generated which can forecast the minimum score required to enter the top 100 NIRF ranking over the next few years. Given that the minimum score has increased every year (except for one year since 2019), the minimum score is expected to grow at a steady pace.

The linear regression equation used for predicting the future minimum score is:

$$y = 1.3263x + 36.335$$
 ----- (Eq2)

Here 'y' is the predicted value (minimum score), 'x' is the independent variable (count of years from 2019), 1.3263 is the slope and 36.335 is the intercept. R² (R-squared) measures how well the trendline fits to the actual data. Here the R-squared value is above 0.7 (0.8319 as per Figure 6) showing a good fit with the actual data.

With the help of Eq2, expected minimum score for entering the top 100 ranking for the next 5 years can be predicted and the same is highlighted in table 9.

Table 8: Minimum score to enter top 100 NIRF ranking (from 2019 to 2024)

Year	2019	2020	2021	2022	2023	2024
Min Score	38.45	39.71	38.88	40.39	42.93	45.5



Figure 6: Projecting the minimum score required to enter top 100 NIRF ranking

Table 9: Projected minimum score required to enter top 100 NIRF ranking

Year	x* (Nth year from base year)	y (min score to enter NIRF 100 ranking)
2025	7	45.6
2026	8	46.9
2027	9	48.3
2028	10	49.6
2029	11	50.9

^{*}Value of x will be 1 for 2019, 2 for 2020 and so on.

5. Outcome and Findings

There are following major outcomes and finding of this study:

- Objective 1: To identify universities whose rank has improved, declined and remained stable (definition given in Table 1) over the past five years and identify any prominent patterns.
- Outcome and Findings 1: The study identified 62 universities (details list in Annexure) who were consistent in the top NIRF 100 ranking and categorized them into Improved, Stable and Declined category. It was observed that most universities with higher ranks have been able to maintain their rank over the past 5 years, whereas the change in the rankings has happened mostly in the lower ranked universities.
 - TLR, RPC, GO, OI and Perception score has improved steadily (Figure 1) for all the 62 universities in the period 2019 to 2024. The average CAGR for all these 62 universities is 2.6%, so to maintain their position in the top 100 NIRF ranking, universities need to continuously improve.
- Objective 2: To understand the impact of NIRF on the NIRF parameters on improved, declined and stable category universities over the past five years.
- Outcome and Findings 2: While looking at the impact of parameters in deciding the improvement, decline or stability of ranking of the selected 62 universities, there was a significant difference in only 3 out of 5 parameters (i.e. TLR, RPC and GO score). In other words, the change in TLR, RPC and GO alone has contributed towards the decision of universities falling into Improved, Stable or Declined category.

- *Objective 3:* To identify the most important parameters which impact the change in NIRF rankings.
- Outcome and Findings 3: As highlighted in Table 5, the overall average RPC score in 2024 is only 36% of the maximum possible score (lowest among all parameters), we can conclude here that RPC will be the most important parameter in determining the ranking of the universities in the top 100 NIRF ranking (Table 10 summarizes the points mentioned above).
- Objective 4: To identify minimum score required for universities to enter the top 100 NIRF ranking.
- Outcome and Findings 4: A mathematical equation (Eq 2) was formulated to project the minimum score required to enter the top 100 NIRF ranking for universities. The universities who current rank lies outside the NIRF 100 ranking can use this equation (Eq2) or refer to table 9, to identify the minimum score required to enter the NIRF 100 ranking.

Table 10: Comparison of score change, average score% achieved and significant difference in change for all NIRF parameters

Parameters	Change in score	Average Score% achieved out of	Significant difference in change of score between
Farameters	from 2019-2024	019-2024 maximum possible in 2024 Improve 20% 68% 5% 36% 1% 74% 50% 64%	Improved, Stable and Declined category
TLR	1.20%	68%	Yes
RPC	5%	36%	Yes
GO	1%	74%	Yes
OI	1.50%	64%	No
Perception	16.40%	38%	No

6. Conclusion

Over the past 5 years, there has been a steady improvement in all the key parameters for the universities in the NIRF top 100 ranking showing that NIRF ranking has had a positive impact on the way institutions operate. Out of all the five parameters TLR, RPC and GO has a significant impact in the change of ranking of the universities. Furthermore, for improvement in future rankings, RPC emerged as the most important parameter out of all (as the scope of improvement in the overall score is the highest amongst all these parameters). Additionally, a mathematical model was developed to help universities outside the top rankings estimate the minimum score needed to enter the top 100 NIRF ranking in the next five years (table 9).

References

- 1. NK, S., Mathew K, S., & Cherukodan, S. (2018). Impact of scholarly output on university ranking. Global knowledge, memory and communication, 67(3), 154-165.
- 2. Banshal, S. K., Singh, V. K., & Mayr, P. (2019). Comparing research performance of private universities in India with IITs, central universities and NITs. Current Science, 116(8), 1304-1313.
- 3. 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 Now Available at https://journal.ilaindia.net/, 52(4).
- 4. Kumar, A., Tiwari, S., Chauhan, A. K., & Ahirwar, R. (2019). Impact of NIRF on research publications: A study on top 20 (ranked) Indian Universities. COLLNET Journal of Scientometrics and Information Management, 13(2), 219-229.
- 5. Vasudevan, N., & SudalaiMuthu, T. (2020). Development of a common framework for outcome based accreditation and rankings. Procedia Computer Science, 172, 270-276.
- 6. Singh, A. P., Yadav, S. P., & Tyagi, P. (2022). Performance assessment of higher educational institutions in India using data envelopment analysis and re-evaluation of NIRF Rankings. International Journal of System Assurance Engineering and Management, 1-12.
- 7. Kumar, A., Singh, K., & Siwach, A. K. (2021). NIRF India Rankings 2020: Analyzing the Ranking Parameters and Score of Top 100 Universities. DESIDOC Journal of Library & Information Technology, 41(5).
- 8. Ali, M. G. A. (2022). Detailed review of national institute ranking framework (NIRF) India rankings including uncertainty and sensitivity. International Journal of Educational Research Review, 7(Special Issue (December 2022)), 418-428.
- 9. Nassa, A. K., Arora, J., Singh, P., Joorel, J. P., Trivedi, K., Solanki, H., & Kumar, A. (2021). Five Years of India Rankings (NIRF) and its Impact on Performance Parameters of Engineering Institutions in India. Pt. 2. Research and Professional Practices. DESIDOC Journal of Library & Information Technology, 41(2).
- 10. Das, K., Samanta, S., Naseem, U., Khan, S. K., & De, K. (2019). Application of fuzzy logic in the ranking of academic institutions. Fuzzy information and engineering, 11(3), 295-306.
- 11. Brahma, K., & Verma, M. K. (2018). Evaluation of Selected Universities Library Websites Listed by National Institutional Ranking Framework (NIRF) during the Year 2017: A Webometric Analysis. J. Sci. Res., 7(3), 173-180.
- 12. Prathap, G. (2019). Construct validity maps and the NIRF 2019 ranking of colleges. Current Science, 117(6), 1079-1083.
- 13. Singh, P., Joorel, J. S., Solanki, H., Kumar, A., & Trivedi, K. (2021). Ranking of Indian research-intensive higher education institutions using multiple ranking methodologies: A correlation analysis. DESIDOC Journal of Library & Information Technology, 41(1), 49-53.
- 14. Aithal, P. S., Shailashree, V., & Kumar, P. M. (2016). The study of new national institutional ranking system using ABCD framework. *International Journal of Current Research and Modern Education (IJCRME)*, *I*(1), 389-402.
- 15. Fernandes, J. O., & Singh, B. (2022). Accreditation and ranking of higher education institutions (HEIs): review, observations and recommendations for the Indian higher education system. *The TQM Journal*, *34*(5), 1013-1038.
- 16. Kumar, V., & Balaji, B. P. (2021). Correlates of the national ranking of higher education institutions and funding of academic libraries: An empirical analysis. *The Journal of Academic Librarianship*, 47(1), 102264.

- 17. Şahin, M., & Aybek, E. (2019). Jamovi: an easy to use statistical software for the social scientists. *International Journal of Assessment Tools in Education*, *6*(4), 670-692.
- 18. St, L., & Wold, S. (1989). Analysis of variance (ANOVA). *Chemometrics and intelligent laboratory systems*, 6(4), 259-272.

Annexure

Table 11: NIRF score of the 62 identified universities from 2019 to 2024

Sr	2024 NIRF rank	University Name	City	State	Category	2024	2023	2022	2021	2020	2019
					Best Score	83.3	83.2	83.6	82.7	84.2	82.3
					Lowest Score	46.6	42.9	40.7	39.9	40.2	38.7
					Mean Score	56.6	54.3	53.1	51.0	52.0	49.7
					Median Score	55.4	52.8	51.3	49.1	50.6	47.9
					SD	7.1	7.7	7.6	7.6	7.6	8.0
1	1	Indian Institute of Science, Bengaluru	Bengalu ru	Karnata ka	Stable	83.29	83.16	83.57	82.67	84.18	82.28
2	2	Jawaharlal Nehru University	New Delhi	Delhi	Stable	69.8	68.92	68.47	67.99	70.16	68.68
3	3	Jamia Millia Islamia	New Delhi	Delhi	Stable	68.11	67.73	65.91	60.74	61.07	58.07
4	4	Manipal Academy of Higher Education, Manipal	Manipal	Karnata ka	Stable	67.18	64.98	62.84	60.58	61.51	58.5
5	5	Banaras Hindu University	Varanas i	Uttar Pradesh	Stable	66.05	65.85	63.2	64.02	63.15	64.55
6	6	University of Delhi	Delhi	Delhi	Stable	65.9	61.45	58.66	57.09	60.1	57.59
7	7	Amrita Vishwa Vidyapeetham	Coimbat ore	Tamil Nadu	Stable	65.73	64.67	63.4	61.23	62.27	59.22
8	8	Aligarh Muslim University	Aligarh	Uttar Pradesh	Stable	65.57	63.88	61.43	58.97	54.3	58.36
9	9	Jadavpur University	Kolkata	West Bengal	Stable	65.39	66.07	65.37	60.33	61.99	60.53
10	10	Vellore Institute of Technology	Vellore	Tamil Nadu	Stable	64.79	64.33	61.77	56.63	55.22	51.44
11	12	S.R.M. Institute of Science and Technology	Chennai	Tamil Nadu	Improved	64.56	58.73	56.24	49.98	50.07	47.8
12	13	Anna University	Chennai	Tamil Nadu	Stable	63.85	60.48	56.22	54.97	58.71	60.35
13	14	Siksha 'O' Anusandhan	Bhuban eswar	Odisha	Improved	62.61	60.33	57.6	52.34	53.1	50.31
14	15	Kalinga Institute of Industrial Technology	Bhuban eswar	Odisha	Improved	62.53	60.09	56.22	52.06	52.33	47.97
15	16	Homi Bhabha National Institute	Mumbai	Maharas htra	Stable	62.31	59.31	57.09	53.24	56.04	51.95
16	17	University of Hyderabad	Hyderab ad	Telanga na	Declined	62.18	62.09	61.71	59.71	61.7	61.85
17	18	Calcutta University	Kolkata	West Bengal	Declined	61.1	61.14	62.23	62.06	61.53	60.87
18	19	Birla Institute of Technology and Science, Pilani	Pilani	Rajastha n	Stable	60.03	58	56.68	54.74	55.79	50.53
19	21	Kerala University	Thiruva nanthap uram	Kerala	Stable	58.48	55.5	49.8	50.52	52.35	51.21

Sr	2024 NIRF rank	University Name	City	State	Category	2024	2023	2022	2021	2020	2019
20	22	Koneru Lakshmaiah Education Foundation University (K L College of Engineering)	Vaddes waram	Andhra Pradesh	Improved	57.98	54.52	52.33	48.57	48.73	44.7
21	23	Savitribai Phule Pune University	Pune	Maharas htra	Declined	57.96	58.31	59.48	58.34	61.13	58.4
22	24	JSS Academy of Higher Education and Research	Mysuru	Karnata ka	Improved	57.74	52.88	51.2	48.79	50.2	46.97
23	25	Andhra University	Visakha patnam	Andhra Pradesh	Stable	57.67	51.04	50.52	51.1	53.82	52.11
24	26	Bharathiar University	Coimbat ore	Tamil Nadu	Declined	57.26	57.82	58.25	56.44	58.3	57.23
25	28	Shanmugha Arts Science Technology and Research Academy	Thanjav ur	Tamil Nadu	Improved	56.81	54.71	53.04	51.83	52.22	45.8
26	29	Thapar Institute of Engineering and Technology (Deemed-to-be-university)	Patiala	Punjab	Stable	56.72	57.32	51.56	50.65	50.65	49.27
27	31	Symbiosis International	Pune	Maharas htra	Improved	56.41	53.13	51.45	48.22	48.35	43.65
28	32	Amity University	Gautam Budh Nagar	Uttar Pradesh	Improved	56.14	52.78	53.07	50.9	49.02	43.53
29	34	Cochin University of Science and TechnologyMore Details	Cochin	Kerala	Improved	55.95	52.33	49.43	47.37	45.02	41.42
30	35	Institute of Chemical Technology	Mumbai	Maharas htra	Declined	55.67	57.06	58.61	56.1	54.1	52.62
31	36	Bharathidasan University	Tiruchir appalli	Tamil Nadu	Improved	55.6	51.48	47.98	44.63	46.41	43.41
32	37	Mahatma Gandhi University	Kottaya m	Kerala	Stable	55.18	53.44	51.61	49.3	50.93	48.08
33	38	Panjab University	Chandig arh	Chandig arh	Declined	55.11	54.86	52.8	51.59	51.85	51.25
34	39	University of Madras	Chennai	Tamil Nadu	Declined	55.03	49.5	49.86	50.46	52.55	51.34
35	40	Gauhati University	Guwaha ti	Assam	Stable	54.86	44.1	50.52	47.35	47.1	45.57
36	40	Jamia Hamdard	New Delhi	Delhi	Declined	54.86	49.85	48.93	48.02	52.6	51.73
37	43	Osmania University	Hyderab ad	Telanga na	Declined	54.69	52.67	53.07	49.16	51.15	49.86
38	44	Dr. D. Y. Patil Vidyapeeth	Pune	Maharas htra	Stable	54.59	50.62	49.43	46.74	47.92	45.11
39	45	University of Kashmir	Srinagar	Jammu and Kashmir	Stable	54.43	53.08	48.27	46.97	46.99	44.19
40	47	Alagappa University	Karaiku di	Tamil Nadu	Declined	53.84	53.53	52.18	49.09	49.22	48.54
41	48	Delhi Technological University	New Delhi	Delhi	Stable	53.31	51.49	49.97	48.01	48.06	44.89
42	49	SVKM's Narsee Monjee Institute of Management Studies	Mumbai	Maharas htra	Stable	52.43	50.31	48.46	45.44	46.01	43.63
43	50	University of Jammu	Jammu	Jammu and Kashmir	Improved	52.33	47.58	48.03	42.52	46.55	40.43
44	51	Sathyabama Institute of Science and Technology	Chennai	Tamil Nadu	Declined	52.16	49.26	49.18	48.17	48.77	45.58

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Sr	2024 NIRF rank	University Name	City	State	Category	2024	2023	2022	2021	2020	2019
45	53	King George's Medical University	Luckno w	Uttar Pradesh	Declined	51.1	50.63	48.51	48.21	50.45	49.91
46	54	Mysore University	Mysuru	Karnata ka	Stable	51.04	50.82	51.37	52.68	51.84	44.06
47	55	Sri Ramachandra Institute of Higher Education and Research	Chennai	Tamil Nadu	Declined	50.86	48.61	48.87	47.17	51.32	47.34
48	56	Periyar University	Salem	Tamil Nadu	Improved	50.36	48.3	46.06	41.38	41.09	40.99
49	58	Tata Institute of Social Sciences	Mumbai	Maharas htra	Declined	50.2	43.03	47.16	48.37	50.1	46.82
50	61	Mumbai University	Mumbai	Maharas htra	Improved	49.86	48.63	48.93	41.56	44	40.03
51	62	Shiv Nadar University	Gautam Buddha Nagar	Uttar Pradesh	Declined	49.8	47.69	46.57	45	46.11	44.45
52	63	Madurai Kamaraj University	Madurai	Tamil Nadu	Declined	49.72	48.95	48.39	43.32	45.58	45.2
53	66	NITTE	Mangal uru	Karnata ka	Stable	49.45	47.07	43.64	41.04	42.19	40.88
54	67	Banasthali Vidyapith	Banasth ali	Rajastha n	Stable	49.38	48.6	48.64	48.57	46.32	43.22
55	69	Tezpur University	Tezpur	Assam	Declined	49.01	46.7	47.48	47.27	48.77	48.47
56	73	Bharath Institute of Higher Education and Research	Chennai	Tamil Nadu	Declined	48.36	46.91	46.4	46.44	45.67	46.32
57	78	Bharati Vidyapeeth	Pune	Maharas htra	Declined	47.94	43.63	43.54	42.1	44.84	42.89
58	80	Guru Gobind Singh Indraprastha University	New Delhi	Delhi	Declined	47.66	45.45	43.39	40.79	40.24	41.21
59	82	Birla Institute of Technology	Ranchi	Jharkha nd	Declined	47.31	46.12	40.69	39.86	43.5	43.49
60	83	Central University of Punjab	Bathind a	Punjab	Improved	47.11	42.93	42.64	39.99	40.93	38.68
61	87	Sri Venkateswara University	Tirupati	Andhra Pradesh	Declined	46.65	48.18	45.07	45.61	48.84	44.88
62	89	Calicut University	Malapp uram	Kerala	Declined	46.63	46.56	44.93	44.13	46.37	42.22