

Ranking and Performance of Indian Universities

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ABSTRACT Almost every communication media made the news of three Indian institutions appearing in Quacquarelli Symonds (QS) World Rankings 2022 a headline, highlighting the importance of finding a place in the coveted ranking. Such rankings provide Higher Education Institutions (HEIs) a reason to pursue excellence in their operations. These rankings are also in the interests of the students and other stakeholders. National Institutional Ranking Framework (NIRF), also known as India Ranking, was introduced in 2015 by the Ministry of Education, Government of India (erstwhile Ministry of Human Resource Department). NIRF outlines a methodology to rank institutions across the country. Rankings obtained in the India Ranking 2017-20 have been analyzed in this study to assess the comparative performance of the top 100 universities. Statistical tests of chi square and Friedman tests show that rankings have remained consistent within the range for the top-performing universities. But, other than the top universities, there exists stiff competition for each ranking place. Overall, statistical analysis shows that rankings obtained by universities are not identical.

INTRODUCTION

Almost every communication media made the news of three Indian institutions appearing in Quacquarelli Symonds (QS) World Rankings 2022 a headline, highlighting the importance of finding a place in the coveted ranking. Such rankings provide Higher Education Institutions (HEIs) a reason to pursue excellence in their operations as these rankings give them recognition and appreciation. Studies are abundantly available advocating the importance of rankings on the performance of HEIs. These studies conclude that rankings have a considerable impact on the higher education landscape (Hazelkorn 2007, 2008; Pusser and Marginson 2013). Over the period, rankings have become the prominent characteristics of the competitive landscape of universities. These rankings are in the interests of the students, parents, and other stakeholders as they receive sufficient information and guidance to make up their minds for important decisions (Locke et al. 2008; Wedlin 2006; Kehm and

Stensaker 2009; King 2009). Rankings also provide HEIs with benchmark standards that help them assess the relative standing of their courses and the competitive position of institutions (Hägg and Wedlin 2013). Further, on the same thoughts, IREG (2011) says that "rankings are influencing individual decisions, institutional and system-level policy-making areas" (p-1). Huang (2012), in a study, concludes that rankings not only play a prominent role in the admission process but also in the budget allocation by the government to higher education.

Despite the many benefits that rankings offer, many researchers have debated the appropriateness of methodologies and indicators that these rankings use to decide the ranking positions (Clarke 2002; Harvey 2008; Anowar et al. 2015; Perez Mejias et al. 2018; Zhang et al. 2020; Mikryukov and Mazurov 2021). University rankings may be analyzed differently by different stakeholders; hence, the validity of these rankings are always in doubt (Stolz et al. 2010; Goglio 2016; Soh 2016; Vidal and Ferreira 2020). While there are serious concerns regarding the legitimacy of publishing a ranking of HEIs, yet, university rankings appear to be here to stay and draw interest from various stakeholders (van Rann 2005; Altbach 2011; Davis 2016).

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Taking inspirations from international rankings like Shanghai Ranking, Academic Ranking of World Universities, QS World University Rankings, etc. The Indian government decided to bring in its own ranking lists to fervour competition and performance orientation among Indian academic institutions. Considering this, the Ministry of Education (erstwhile Ministry of Human Resource Department) introduced the National Institutional Ranking Framework (NIRF) in 2015. This framework outlines a methodology to rank institutions across the country. The broader objective of the NIRF was to improve the ranking of Indian universities in the World University Ranking (NIRF n. d.: 7).

The genesis of introducing NIRF was also to instil a sense of excellence among HEIs, leading to overall upliftment of quality in the higher education landscape. The NIRF also aspires to find more Indian HEIs in the lists of reputed world rankings. This ranking was also beneficial for students and policymakers to help them make better and informed decisions. As a by-product, India rankings also teach HEIs the importance of collecting, compiling, and curating data. Now HEIs are keeping and maintaining data meticulously on various indicators. These data are now helping HEIs in the better and scientific evaluation of their performance. To cover a large spectrum of the Indian higher education system, NIRF proposed publishing rankings in various disciplines like engineering, management, pharmacy, architecture, and colleges and universities. The final framework identifies between 15-18 parameters organized in five major groups. The parameters broadly cover 'Teaching', 'Learning and Resources', 'Research and Professional Practices', 'Graduation Outcomes', 'Outreach and Inclusivity', and 'Perception' (<https://www.nirfindia.org/About>)

NIRF has published six India Rankings under the categories universities, colleges, overall, and significant disciplines. Today it is believed that all major universities and colleges are participating in these rankings. This paper attempts to review the impact of India Rankings on HEIs critically. This study aims to study the ranking and performance variables of the universities and tries to evaluate how universities have performed on these rankings and the Indian higher education landscape?

Objectives and Hypotheses

This study aims to determine the usefulness of India Ranking in motivating universities to participate in the ranking process. The study also desires to evaluate the universities' performance and conclude whether the process of India Ranking is resulting in the improvement in the performances of the participating universities. Specifically, the objectives of the study are:

1. to analyse the ranking landscape of Indian universities as provided by the NIRF
2. to examine the respective ranking positions of top universities based on university category and their belonging states.
3. to assess the performance metric of the universities

Based upon these objectives following hypotheses have also been formulated for the study-

H1₀: Representation of Government and Private universities in India Rankings are uniformly distributed

H2₀: The rank distribution of the 69 universities are identical

METHODOLOGY

This work has relied on rigorous analysis of secondary data obtained from NIRF website. Analytical research design has been applied to analyse research questions and hypothesis systematically.

Data Collection

The source of secondary data is the reports that NIRF publishes on India Rankings. The first ranking by NIRF was published in June 2016. On the careful evaluation of the data, it was found that many good universities are missing from India Rankings 2016. Reasons may be a lack of awareness and understanding of the ranking methodology among universities. That is why researchers have purposely not considered the India Rankings 2016, and India Ranking 2017, 2018, 2019, and 2020 have been collected for the analysis. Researchers have considered universities rankings for the analysis.

NIRF publishes its ranking in two parts. The first part contains a list of top 100 universities

according to their rank position, starting from the first to the 100th position. The second part publishes the following 100 universities in a rank band of 101-200 positions. This rank band contains universities' names in alphabetical order only (and not in rank order). This limitation in the list has forced us to consider only the top 100 ranks in our analysis.

Analysis of Data

Though NIRF publishes India Rankings for various disciplines like Engineering, Management, Pharmacy, Medical, and other courses, this study limits itself to analysing data on universities only.

The researchers collected the lists of the top 100 universities from India Ranking 2017, 2018, 2019 and 2020 for analysis. Then these universities were arranged in a single list, and duplicate entries were deleted. After the removal of duplicate entries, only 140 unique names remained in the list. The analysis is based on these 140 universities that contested to register their place in the coveted list of the India Rankings top 100 universities.

As these data are of ranking order, non-parametric tests have been used for the calculation. Data calculations also used descriptive statistics for the analysis. Chi-square and Friedman tests have been used for hypotheses evaluation.

RESULTS

Table 1 highlights the total number of universities functioning in India as of 17.05.2021 (University Grant Commission n. d.). The Table records data for - State Universities, deemed to be universities, Central Universities, and Private Universities. As of 17 May 2021, 891 universi-

Table 1: Universities in India (as on 17 May, 2021)

University category	Total number
State Universities	426
Deemed to be Universities	125
Central Universities	54
Private Universities	376
Total	891

Source: Consolidated list of all universities as on 17.05.2021, University Grant Commission (n.d.)

ties are in existence in Indian Higher Education Sector. Out of the total universities, 426 are state universities, 125 are deemed to be universities, 54 are central universities, and 376 universities belong to private universities.

Table 2 talks about the number of institutions participating in the India ranking process. NIRF reports provide data about the HEIs participating under different disciplines and 'College' and 'Overall' categories.

Table 2: Basic Description of Participating Universities in NIRF

Participation of HEIs in NIRF under the category 'Overall'

Year	2017	2018	2019	2020
No. of HEIs	724	957	1479	1667

Universities in top 100 in India rankings 2017-20 (according to their status)

Status	Central	State	Deemed	Private
No. of HEIs	12	66	46	16

Universities in top 100 in India rankings 2017-20 (government vs private)

Status	Govern- ment	Private
No. of HEIs	87	53

Source: Data have been taken from Indian Ranking Reports. India Ranking report 2017 (NIRF 2017a, p.4); India Rankings report 2018 (NIRF 2018a: 4); India Rankings report 2019 (NIRF 2019a:3); India Rankings report (NIRF 2020a: 4)

Since the NIRF website does not provide data of participating universities specifically, 'Overall' category data has been taken to show the progress of participating institutions in the India Ranking since 2017. It is seen that participation of colleges has increasing trend and increased from 724 to 1667 HEIs. Table 2 also distributes these 140 universities according to their type of ownership and status. The Table shows that state-funded universities are the prominent group appearing in the lists. Out of the 140 universities, 12 are central universities, 66 are state universities, 46 are deemed to be universities, and 16 are private universities. Government universities are the major position holders of the

top 100 universities in these four years of India ranking list. Segregated data is presented in Table 4 and it shows that 87 times government universities, and 53 times private universities have appeared in these four years lists of India ranking.

Table 3 evaluates the performance of universities according to the Indian states they belonged to. Names of universities of each year's ranking list are arranged according to their state, and then the total number of frequencies respective to each state are counted and noted in Table 3. The last column of the Table concludes the overall performance of the states over the four years of rankings.

The state of Tamil Nadu, with 18 universities, has the highest share in the latest list of India Ranking 2020. Maharashtra (13 universities) and Karnataka (11 universities) also figure prominently in this list. Haryana, Karnataka, Maharashtra have shown a positive trend in their presence, while the representation of Himachal Pradesh, Rajasthan, and Tamil Nadu drops from the ranking lists of 2017 to 2020. For other Indi-

an states, loss and gain in their participation have been marginal. Arunachal Pradesh, Himachal Pradesh, and Nagaland made an exit in the India Ranking 2020 as no universities from the respective states could maintain their position.

Table 4 gathers ranking data over the four periods of study. This Table includes all universities that appeared in any of the India Rankings from 2017 to 2020. Universities given in the Table are shown by the ranks they scored each year, the status of the university, and their performance. Overall, 140 Universities have secured a place in one or the other rankings. It is also evident from the Table that not all universities could maintain their position in these four rankings. Many of them have to exit from the ranking list. This demonstrates the presence of stiff competition among participating universities for the top 100 positions.

Table 5 distributes 140 universities into different categories according to the number of times universities find a place in the list from 2017 to 2020. It is evident from the Table that 69 universities can be marked as consistent performers as

Table 3: State wise distribution

S. No.	Name of state	2017	2018	2019	2020	Performance
1	Andhra Pradesh	7	6	5	6	Marginal
2	Arunachal Pradesh	1	0	1	0	Marginal
3	Assam	4	4	4	3	Marginal
4	Chandigarh	1	1	1	1	Marginal
5	Delhi	6	6	6	6	Marginal
6	Goa	1	1	1	1	Marginal
7	Gujarat	2	2	1	1	Marginal
8	Haryana	1	3	3	4	Positive
9	Himachal Pradesh	2	1	1	0	Negative
10	Jammu and Kashmir	2	2	2	2	Marginal
11	Jharkhand	0	1	1	1	Marginal
12	Karnataka	8	9	10	11	Positive
13	Kerala	5	4	4	4	Marginal
14	Maharashtra	8	9	11	13	Positive
15	Meghalaya	1	1	1	1	Marginal
16	Mizoram	1	1	1	1	Marginal
17	Nagaland	0	1	0	0	Marginal
18	Odisha	2	3	2	3	Marginal
19	Pondicherry	2	2	2	2	Marginal
20	Punjab	4	3	4	5	Marginal
21	Rajasthan	4	2	2	2	Negative
22	Tamilnadu	24	20	21	18	Negative
23	Telangana	2	4	4	3	Marginal
24	Uttar Pradesh	7	7	6	6	Marginal
25	Uttarkhand	0	1	1	1	Marginal
26	West Bengal	5	6	5	5	Marginal

Source: Analysis of data

Table 4: Rank performance of universities

S. No.	Type	Name	2017	2018	2019	2020	Performance
1	D(G)	Indian Institute of Science	1	1	1	1	0
2	Central	Jawaharlal Nehru University	2	2	2	2	0
3	Central	Banaras Hindu University	3	3	3	3	0
4	D(G)	Jawaharlal Nehru Centre for Advanced Scientific Research	4	NA	NA	NA	NA
5	Govt	Jadavpur University	5	6	6	5	0
6	Govt	Anna University	6	4	7	12	-6
7	Govt	University of Hyderabad	7	5	4	6	1
8	Govt	University of Delhi	8	7	13	11	-3
9	D(P)	Amrita Vishwa Vidyapeetham	9	8	8	4	5
10	Govt	Savitribai Phule Pune University	10	9	10	9	1
11	Govt	Aligarh Muslim University	11	10	11	17	-6
12	Govt	JamiaMilliaIslamia	12	12	12	10	2
13	P	Birla Institute of Technology and Science	13	17	23	15	-2
14	P	Vellore Institute of Technology	14	16	19	16	-2
15	D(G)	Indian Agricultural Research Institute	15	NA	NA	NA	NA
16	Govt	Calcutta University	16	14	5	7	9
17	Govt	Tamil Nadu Agricultural University	17	25	44	NA	NA
18	P	Manipal Academy of Higher Education	18	11	9	8	10
19	Govt	VisvaBharati	19	31	37	50	-31
20	P	Siksha 'O' Anusandhan	20	24	24	20	0
21	D(G)	HomiBhabha National Institute	21	26	17	14	7
22	P	Bharath Institute of Higher Education and Research	22	21	36	59	-37
23	Govt	Osmania University	23	28	26	29	-6
24	Govt	Punjab Agricultural University	24	38	51	NA	NA
25	D(G)	Institute of Chemical Technology	25	19	15	18	7
26	D(P)	Jamia Hamdard	26	23	18	21	5
27	Govt	Gauhati University	27	39	42	47	-20
28	Govt	Bharathiar University	28	13	14	13	15
29	Govt	Kerala University	29	30	22	23	6
30	Central	Tezpur University	30	29	29	40	-10
31	D(P)	Tata Institute of Social Sciences	31	32	35	34	-3
32	D(P)	Shanmugha Arts Science Technology and Research Academy	32	36	40	25	7
33	Govt	Panjab University	33	20	21	26	7
34	P	SRM Institute of Science and Technology	34	41	32	35	-1
35	D(G)	Indian Institute of Space Science and Technology	35	NA	NA	NA	NA
36	Govt	Mysore University	36	NA	54	27	9
37	Central	Pondicherry University	37	59	48	58	-21
38	Govt	Tamil Nadu Veterinary and Animal Sciences University	38	65	71	NA	NA
39	D(P)	Sri Ramachandra Medical College and Research Institute	39	40	33	28	11
40	Govt	Anand Agricultural University	40	83	67	NA	NA
41	Govt	University of Madras	41	18	20	22	19
42	Govt	Sri Venkateswara University	42	49	49	38	4
43	Govt	Andhra University	43	22	16	19	24
44	D(P)	Sathyabama Institute of Science and Technology	44	45	41	39	5
45	D(P)	Jagadguru Sri Shivarathreeshwara University (JSS)	45	37	34	33	12
46	D(P)	Thapar Institute of Engineering and Technology	46	33	27	31	15
47	D(P)	Dr. D. Y. Patil Vidyapeeth	47	52	46	46	1
48	Central	North Eastern Hill University	48	61	39	49	-1
49	D(P)	Kalinga Institute of Industrial Technology	49	42	31	24	25

Table 4: Contd....

S. No.	Type	Name	2017	2018	2019	2020	Performance
50	Govt	Guru Angad Dev Veterinary and Animal Sciences University	50	NA	NA	NA	NA
51	Govt	Dr. Y. S. Parmar University of Horticulture and Forestry	51	71	80	NA	NA
52	P	Amity University	52	53	58	37	15
53	D(P)	Banasthali Vidyapith	53	64	61	55	-2
54	D(P)	Bharati Vidyapeeth	54	66	62	63	-9
55	D(P)	Saveetha Institute of Medical and Technical Sciences	55	46	43	42	13
56	Govt	Annamalai University	56	NA	NA	NA	NA
57	Govt	Calicut University	57	73	64	54	3
58	Central	Mizoram University	58	81	76	67	-9
59	Govt	Kurukshetra University	59	80	98	99	-40
60	P	Shiv Nadar University	60	48	52	56	4
61	D(P)	Symbiosis International	61	44	56	43	18
62	D(P)	KLE Academy of Higher Education and Research	62	57	69	70	-8
63	Govt	University of Jammu	63	51	74	52	11
64	Govt	Goa University	64	68	94	81	-17
65	D(P)	Vel Tech Rangarajan Dr. Sagunthala RandD Institute of Science and Technology	65	NA	NA	NA	NA
66	Govt	Kalyani University	66	86	91	89	-23
67	Govt	Mahatma Gandhi University	67	35	30	30	37
68	Govt	Rajasthan University of Veterinary and Animal Sciences	68	NA	NA	NA	NA
69	D(P)	Sri Sathya Sai Institute of Higher Learning	69	93	NA	75	-6
70	D(P)	Meenakshi Academy of Higher Education and Research	70	88	100	NA	NA
71	D(P)	Karunya Institute of Technology and Sciences	71	89	92	NA	NA
72	D(G)	Dayalbagh Educational Institute	72	63	77	82	-10
73	Central	University of Kashmir	73	47	53	48	25
74	Govt	Dibrugarh University	74	84	86	84	-10
75	P	Nirma University	75	94	NA	NA	NA
76	Central	Rajiv Gandhi University	76	NA	99	NA	NA
77	Govt	Madurai Kamraj University	77	54	45	60	17
78	Govt	Sri Venkateswara Veterinary University	78	NA	NA	NA	NA
79	Govt	Rajasthan University	79	NA	NA	NA	NA
80	Govt	Guru Nanak Dev University	80	60	55	51	29
81	P	Jaypee Institute of Information Technology	81	100	NA	NA	NA
82	Govt	Guru Gobind Singh Indraprastha University	82	74	66	95	-13
83	D(P)	Sri Balaji Vidyapeeth Mahatma Gandhi Medical College Campus	83	72	72	88	-5
84	D(P)	NITTE	84	77	70	74	10
85	Govt	Periyar University	85	90	68	83	2
86	Govt	Cochin University of Science and Technology	86	69	65	62	24
87	Govt	Vidyaasagar University	87	NA	NA	NA	NA
88	Govt	Bharathidasan University	88	67	60	53	35
89	D(P)	Gandhi Institute of Technology and Management (GITAM)	89	85	84	71	18
90	D(P)	Karpagam Academy of Higher Education	90	NA	NA	NA	NA
91	D(P)	The Gandhigram Rural Institute	91	79	75	91	0
92	Central	Assam University	92	87	97	NA	NA
93	P	Jaypee University of Information Technology-Solan	93	NA	NA	NA	NA
94	P	PES University	94	99	NA	NA	NA
95	Central	University of Allahabad	95	NA	NA	NA	NA

Table 4: Contd...

S. No.	Type	Name	2017	2018	2019	2020	Performance
96	Govt	Sri Krishnadevaraya University	96	NA	NA	NA	NA
97	Govt	Alagappa University	97	27	28	36	61
98	D(P)	NarseeMonjee Institute of Management Studies -Mumbai	98	NA	NA	NA	NA
99	Govt	Jawaharlal Nehru Technological University	99	NA	NA	NA	NA
100	P	B.S. Abdur Rahman Institute of Science and Technology	100	NA	NA	NA	NA
101	Govt	King George's Medical University	NA	15	25	32	-10
102	Govt	G. B. Pant University of Agriculture and Technology	NA	34	38	NA	-4
103	D(P)	Birla Institute of Technology	NA	43	59	66	-16
104	Govt	Chaudhary Charan Singh Haryana Agricultural University	NA	50	63	NA	-13
105	D(P)	SVKM's NarseeMonjee Institute of Management Studies	NA	55	57	57	-2
106	D(P)	Koneru Lakshmaiah Education Foundation University	NA	56	50	41	6
107	Govt	University of Agricultural Sciences	NA	58	83	NA	-25
108	Govt	Sri Venkateswara Institute of Medical Sciences	NA	62	78	NA	-16
109	Govt	Delhi Technological University	NA	70	47	45	23
110	Govt	Bidhan Chandra Krishi Vishwavidyalaya	NA	75	NA	NA	NA
111	Govt	Maharshi Dayanand University	NA	76	90	76	-14
112	Govt	Kuvempu University	NA	78	73	73	5
113	D(G)	Professor Jayashankar Telangana State Agricultural University	NA	82	79	NA	3
114	Govt	Orissa University of Agriculture and Technology	NA	91	NA	NA	NA
115	D(P)	Yenepoya University	NA	92	95	86	-3
116	Central	Nagaland University	NA	95	NA	NA	NA
117	Govt	The University of Burdwan	NA	96	89	92	7
118	D(P)	D. Y. Patil Educational Society	NA	97	NA	NA	NA
119	D(PP)	International Institute of Information Technology Hyderabad	NA	98	82	79	16
120	Govt	Mumbai University	NA	NA	81	65	16
121	Govt	Dr. Babasaheb Ambedkar Marathwada University	NA	NA	85	69	16
122	Govt	Mangalore University	NA	NA	87	NA	NA
123	D(P)	Padmashree Dr. D. Y. Patil Vidyapeeth	NA	NA	88	77	11
124	Govt	Manonmaniam Sundaranar University	NA	NA	93	NA	NA
125	Central	Central University of Punjab	NA	NA	96	87	9
126	Govt	Gujarat University	NA	NA	NA	44	NA
127	D(P)	Datta Meghe Institute of Medical Sciences	NA	NA	NA	61	NA
128	Govt	Punjabi University	NA	NA	NA	64	NA
129	Govt	Bangalore University	NA	NA	NA	68	NA
130	D(P)	Kalasalingam Academy of Research and Higher Education	NA	NA	NA	72	NA
131	P	Lovely Professional University	NA	NA	NA	78	NA
132	Govt	Visvesvaraya Technological University	NA	NA	NA	80	NA
133	D(P)	Jain University	NA	NA	NA	85	NA
134	D(P)	Krishna Institute of Medical Sciences	NA	NA	NA	90	NA
135	P	Maharishi Markandeshwar	NA	NA	NA	93	NA
136	Govt	Guru Jambheshwar University of Science and Technology	NA	NA	NA	94	NA
137	Govt	Utkal University	NA	NA	NA	96	NA
138	P	Graphic Era University	NA	NA	NA	97	NA
139	D(P)	Chettinad Academy of Research and Education	NA	NA	NA	98	NA
140	D(P)	Vignan's Foundation for Science, Technology and Research	NA	NA	NA	100	NA

Source: Data have been captured from India Rankings editions of 2017 to 2020 from NIRF (2017b, 2018b, 2019b, 2020b)

they appear in all four India Ranking lists. Out of the 140 universities, 25 universities are ranked thrice in the lists of four rankings, 14 universities appear two times, and 32 universities are mentioned just once in these four rankings.

Table 5: Distribution of ranking

<i>Times university appear in the ranking lists</i>	<i>No. of universities</i>
4	69
3	25
2	14
1	32
Total	140

Source: Analysis of data

Rank positions obtained by the universities in their first listing (2017) and India Rankings 2020 are compared to estimate the performance. The rank of universities in 2020 is subtracted from their respective first-time listing positions to get a numeric indicator for the performance.

Performance is not calculated for the universities that appear for the first time in the list of top 100 universities in 2020. Those existing universities which could not find a place in the India Ranking 2020 are also excluded from the study. All such non-eligible universities have been represented 'NA' in Table 4. Column named 'Performance' records the resultant values of the calculation. Numeric values with a negative sign in this column explain that the performance of the respective university has declined since the first ranking, and values with positive signs show performance improvement.

Movement in ranks of respective universities is given in Table 6. Out of 140 universities, 35 universities observed a drop in their ranking positions, while 49 universities improved their respective ranking positions. Fifty universities

have not been found fit for the evaluation purpose as these universities do not find a place in the India Ranking 2020. Six universities have maintained the same ranking position over the four years of India Rankings. Out of these six universities, four universities have retained the top four positions in each ranking list. Table 6 also presents the fact that overall the value of ranking gained (641) by the universities is greater than the ranking lost (404) by the eligible universities. On average universities lost 9 rank positions (minimum = 1; maximum = 40; range = 39) and gained 10 rank positions (minimum = 1; maximum = 61; range = 60).

Thirty-nine universities got eliminated from the India Ranking lists from 2017 to 2020 (Table 7). Universities that fail to find a place in the 2020 ranking list are eliminated and not considered for the statistical tests. Out of these eliminated universities, the majority were government-owned universities. Among the other reasons, the dominance of government-owned universities in the initial year's ranking positions may be one of the reasons. Government universities are getting tough competition from private universities in the latest rankings and eventually are getting replaced. Table 7 reveals that 17 universities were eliminated in 2018, seven universities were eliminated in 2019, and 15 universities could not find their place in the India Ranking 2020.

Table 8 discusses the number of universities that entered into the India Ranking lists at different years during the four years of ranking. Ten universities were the first timer in the top 100 of India Ranking 2018, four universities entered for the first time in 2019, and fifteen universities got their place in the top 100 ranks in the year 2020 rankings. This table records the data for only those universities which remained in the list till the latest ranking after getting entry into the India ranking lists at any point of time.

Table 6: Ranking performances

<i>Ranking position</i>	<i>No. of universities</i>	<i>Total value</i>	<i>Median</i>	<i>Range</i>	<i>Min</i>	<i>Max</i>
Lost	35	404	9	39	1	40
Gained	49	641	10	60	1	61
Constant	6	0	0	0	0	0
NA	50	NA	NA	NA	NA	NA
Total	140					

Source: Analysis of data

Table 7: Elimination trend of universities out of the India rankings

<i>Universities Present in India Ranking 2017 and Eliminated Later On</i>							
Year	Central	State	Deemed	Private	Overall		Total
					Government	Private	
2018	1	8	6	2	12	5	17
2019	0	0	0	3	0	3	3
2020	1	5	2	0	6	2	8
<i>Universities Appeared in the India Ranking 2018 and Eliminated Later On</i>							
2019	1	2	1	0	3	1	4
2020	0	4	1	0	5		5
<i>Universities appeared in the India ranking 2019 and eliminated later on</i>							
2020	0	2	0	0	2	0	2
Total	28	11	39				

Source: Analysis of data

Table 8: Entering trend of universities in the India rankings

Central	State	Deemed	Private	Overall		Total
				Government	Private	
0	5	5	0	6	4	10
<i>Universities First Entered in India Ranking 2019 and Maintained their Rank in the List Till 2020</i>						
1	2	1	0	3	1	4
<i>Universities Entering for the First Time in India Ranking 2020</i>						
0	6	6	3	6	9	15

Source: Analysis of data

Hypotheses Tests

H1_o: Representation of Government and Private universities in India Rankings are equally distributed

H1_i: Representation of Government and Private universities in India Rankings are not equally distributed

Out of 140 universities that formed the lists of India Ranking from 2017 to 2020, 87 universities were government-owned, and 53 universities were privately owned. Chi-square statistics are used to test the hypothesis as data are nominal. Table 9 contains the observed and expected frequencies and calculate the Chi-square statistics.

The calculated Chi-square statistics is 8.26, which is greater than the Chi-square critical val-

ue of 3.84 (df =1, significance level 0.05 from Chi-square table). Hence null hypothesis is rejected, and we can conclude that representation of government and private universities in India Rankings are not equally distributed. This is clear from Table 9 that government-owned universities have significantly higher representation in the rankings.

H2_o: The rank distribution of the 69 universities are identical

H2_i: The rank distribution of the 69 universities are not identical

To test this hypothesis, 69 universities that got ranking in all of the four lists of India Rankings are considered. These 69 universities, along with their rank positions, were noted down separately. Next, the actual rankings of universities

Table 9: Chi-square table

Type of university	Observed frequency (fo)	Expected frequency (fe)	(fo - fe)	(fo - fe) ²	(fo - fe) ² /fe
Government	87	70	17	289	4.128571
Private	53	70	17	289	4.128571
Chi-square calculated	8.257143				

were modified to create successive ranks in ascending order. Finally, these universities were ranked from 1 to 69 according to their original standing. This modified ranking was necessary to make data suitable to implement the Friedman test. Following output was obtained after the implementation of the Friedman Test (Table 10).

Table 10: Output of Friedman Test

Test Statistics ^a	
N	4
Chi-Square	252.577
Df	68
Asymp. Sig.	.000
a. Friedman Test	

The result is highly significant with $p = .000$ (Chi-square = 252.577, $df = 68$). Hence Null hypothesis is rejected, and we can conclude that rankings obtained by universities are not identical. There is a clear indication that few universities have outperformed the rest of the universities. There is a significant difference between the rankings of universities spread over the four years.

DISCUSSION

Data analysis reveals that India Ranking has gradually gained acceptance among the HEIs of India and participation of HEIs in the NIRF ranking has seen an increasing trend. The second edition (2017) of the India ranking saw the participation of only 724 HEIs that grew up to 1667 HEIs in the 2020 edition. NIRF has been successful in motivating HEIs for their participation in the India Ranking process. It is also seen from the results that new entrants have started displacing the existing universities in the later years of rankings. This is an indication that gradually deserving universities that are working hard on the parameters of NIRF have started finding a place in the ranking lists. Noting that such rankings

are there to stay, as suggested by the Institute for Higher Education Policy (2007), universities are gearing themselves up to meet the challenges of the ranking process.

Overall Performance of Universities

A total of 140 unique universities are part of the top 100 positions in the four editions of India Rankings (2017-2020). Out of these 140 entities, only 69 universities have a constant presence on the list. The remaining universities fought with each other to bag the coveted place in the top 100 lists. It is also seen from the study that 15 universities made the maiden entry in the India ranking 2020, thus, making it clear that no universities can be confident of holding their place in the list if they do not follow the continuous pursuance of excellence. It is also seen that Out of 140 universities, 35 universities observed loss in their ranking positions while 49 universities show improvement in their respective ranking position. The analysis also suggests that 50 universities appearing in the previous rankings could not find a place in the India Ranking 2020. Four editions of India Rankings also have six universities maintaining the same ranking position in the lists. The study concludes that NIRF ranking has instilled competition among Indian universities and makes them quality and output-driven. The results support the findings of Pusser and Marginson (2013).

It is seen that ranking positions of top-performing universities have primarily remained consistent within the range. Individual positions of the top 15 universities have changed by a few slots up and down. Other than these top-ranked performers, universities find upheaval in the rank positions. Friedman test results conclude that rankings obtained by universities are not identical.

Government versus Private Universities

The analysis also discerns that, over the period, ranking is significantly dominated by

government-owned universities. However, in the later years of India Rankings, private universities are making their way in the ranking lists by replacing the government universities. The statistical test reveals that the representation of government and private universities in India Rankings are not equally distributed. These findings are in line with the study of Singh and Singh (2021) where they state that the private universities are giving tough fight to government owned universities in the overall ranking of NIRF list. Banshal et al. (2019) also highlight the good performance of private universities in their study as they comment that these universities are giving good research outputs. This is also one of the reason for good performance of private universities in NIRF ranking.

CONCLUSION

NIRF came into existence with the objective that this ranking framework will stimulate HEIs to pursue excellence in their operations. It was believed that this framework would provide benchmarking to universities to set achievable targets and motivate them to achieve the set targets. It was envisioned with this ranking system that publications of the yearly ranking list will continuously upgrade the performance of the participating universities and bring out the overall improvement in the higher education sector. Government universities have dominated the ranking positions in the India Ranking lists, but private universities have started replacing them in the later years. Stiff competition for the top 100 positions is visible in the India ranking lists as the rank distribution of the respective universities is not identical. Overall, the NIRF ranking system has successfully provided directions to universities to achieve better deliverables, which are expected from an institution. The NIRF acts as a feedback mechanism for the higher education sector, and institutions can also assess their performance and compare others.

RECOMMENDATIONS

The results of this study can be beneficial to the management (government and private) of the universities to follow their progress and striving for continuous improvements. The

analysis is particularly important for government-owned universities. Despite their dominance in the initial rankings, they are losing out fast to the private universities in the latest rankings. They can explore the reasons behind their decreasing performance as NIRF provides comprehensive data to explore and understand ranking scores. The study also highlights the issue of far from the desired number of participation from HEIs in the NIRF ranking process. Administrators and policymakers need to devise a course of action to increase the participation numbers.

LIMITATIONS OF THE STUDY AND SCOPE FOR FURTHER RESEARCH

Data from the India Ranking 2017 to 2020 are the source of data. Thus the findings are relevant to these data only. Detailed information is available only for the top 100 universities in the India Rankings lists; hence, they form part of the analysis. Limited techniques of statistical methods have been used as per the objectives of the study. Further study can use more advanced statistical techniques to analyze data.

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