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RANKING OF INSTITUTIONS OF HIGHER EDUCATION –INDIAN PERSPECTIVE

---- *Critical Analysis*

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‘Education is the most powerful weapon which you can use to change the world’.

-Nelson Mandela

ABSTRACT

Higher education plays an important role in uplifting society and the world. It helps in framing opinions regarding all facets of human life making us better individuals. In Indian society, higher education enhances job and marital prospects. The institutes of higher education in India is plagued by various demerits. India has a large number of educational institutes both in the public and the private sector, the private participation increasing after globalization. In a bid to bring about competition among the institutes of higher education, the system of ranking had been introduced in the west though almost all the universities worldwide have adopted this practice, and India is no exception. However, Indian universities fare very badly when compared to universities in developed countries and also in Asian countries. Indian universities do not find a place in the list of the top 200 global institutes. Universities in the USA and UK have reported good performance in all the parameters as compared to Indian universities. Universities in Singapore, China, and Japan are also showing better performance. This paper analyzes the weaknesses in Indian institutes and offers remedial measures.

Keywords: Higher Education, Universities, Lacunae, High Impact Research, Research Institutes, Faculty, Management Research, International Students

1.0 INTRODUCTION

Education is an important tool that acquaints us with the world and transforms it into a better place. It aids in the development of a perspective of life and building individual opinions. In this regard, higher education assumes high importance. As such, proper attention and evaluation should be bestowed upon it to derive the maximum benefit. Higher education provides knowledge and respect besides enhancing our career prospects, thereby enhancing our economic wellbeing. From the perspective of the theory of human capital, higher education helps in the development of science and technology that are vital in increasing our living standards in a global knowledge-driven economy (Ding & Zeng, 2015). The institutional theory equates institutions of higher education with value-driven professional organizations which are synchronous with various academic norms. The institutes of higher education, therefore, depend upon assessment, communication, culture, decision making, financial support, and regulatory frameworks to meet their strategic objectives (Stensaker, 2014). In the Chinese context, studies suggest four important factors responsible for the growth of scientific research: large human capital, a large number of

Chinese scientists, central government ready for scientific investment, and the presence of a labor market that favours academic merit (Xie, Zhang & Lai, 2014).

There have been various studies that have examined the scope of higher education using different paradigms. These paradigms include assessment of higher education based on economic development (Jabnoun, 2015; Yaisawarng & Ng, 2014; Kantola & Kettunen, 2012; Moed, Moya-Anegón, López-Illescas & Visser, 2011), internalization of higher education, funding for research, rankings et.al (Millot, 2015; Daraio, Bonaccorsi & Simar, 2015; Li, Roberts, Yan & Tan, 2014; Jöns & Hoyler, 2013; Saisana, d’Hombres & Saltelli, 2011; Frølich, Schmidt & Rosa, 2010; Usher & Savino, 2006), the impact of research productivity, the publication of journals (Berlemann & Haucap, 2015; Neri & Rodgers, 2014; Abramo, Cicero & D’Angelo, 2013; Lin, Huang & Chen, 2013; Huang, 2012; Michael Hall, 2011). In recent years, both the performance of institutions of higher education and rankings have gained importance among research scholars (Chinta, Kebritchi & Elias, 2016; Gonzalez-Brambila, Jenkins & Lloret, 2016; Menon, 2016). Researchers in India have not significantly contributed to such research till recently when some studies have been conducted covering university rankings of Indian universities (Sahoo, Singh, Mishra & Sankaran, 2017; Padalkar & Gopinath, 2015).

The Indian media have occasionally commented upon the status of higher education in India either by way of analysis or by quoting the views of eminent personalities. India Today, in one of its issues published during 2013, quoted Dr. Manmohan Singh, the former Prime Minister of India (Prathap, 2014).

‘Too many of our higher education institutions are simply not up to the mark. Too many of them have simply not kept abreast with changes that have taken place in the world around us..., still producing graduates in subjects that job market no longer requires... Not one Indian university today figures in the top 200 universities of the world.’

The higher education system in India has been subject to several criticisms which include lack of skilled faculty, inadequate infrastructure, poor course content, lack of industry-centric courses, low financial support, among others (Sheel & Vohra, 2014; Yeravdekar & Tiwari, 2014). These lacunae which are prevalent among the state-run universities due to the distribution of power between the central and state governments have seen certain transformations with the private players being allowed entry in the arena post-economic reforms (University Grants Commission, 2020; Venkatesh, 2007), thereby affecting both the economic parameters as well as the human capital. To cope up with the ever-growing requirements, the Government of India has focused upon setting up Institutes of National Importance like the IITs, IIITs, NITs, IIMs, IISERs, etc., though a concerted focus on high impact research, industry collaboration, etc. seem to be lacking. However, these institutes are assessed by organizations like the NAAC and the NBA. The inability of the Indian Universities to adhere to the parameters prescribed for global ranking lies in the lack of proper infrastructure, lack of an ambiance for research, etc. (Yeravdekar & Tiwari, 2014). The private universities have also not been able to provide the required impetus due to

inherent procedural drawbacks like indulgence in unethical practices, the contradiction between quality and quantity, etc.

2.0 HIGHER EDUCATION IN INDIA

2.1 University Education

Higher education in India is the third-largest global educational system after the United States of America and China. This allows us to enter into global competition. As per the UGC Annual Report, 2019-20, India has 1075 universities and institutes across all sectors be it public, private, deemed, or otherwise (Boyer, Moser, Ream & Braxton, 2015).

Type of Institution	Number as on 31.03.2020
Central University	51
State University	402
State Private University	334
Institutions Established through State Legislations	7
Deemed University	126
Institutes of National Importance	155

Table 1: Number of Universities as on 31.03.2020

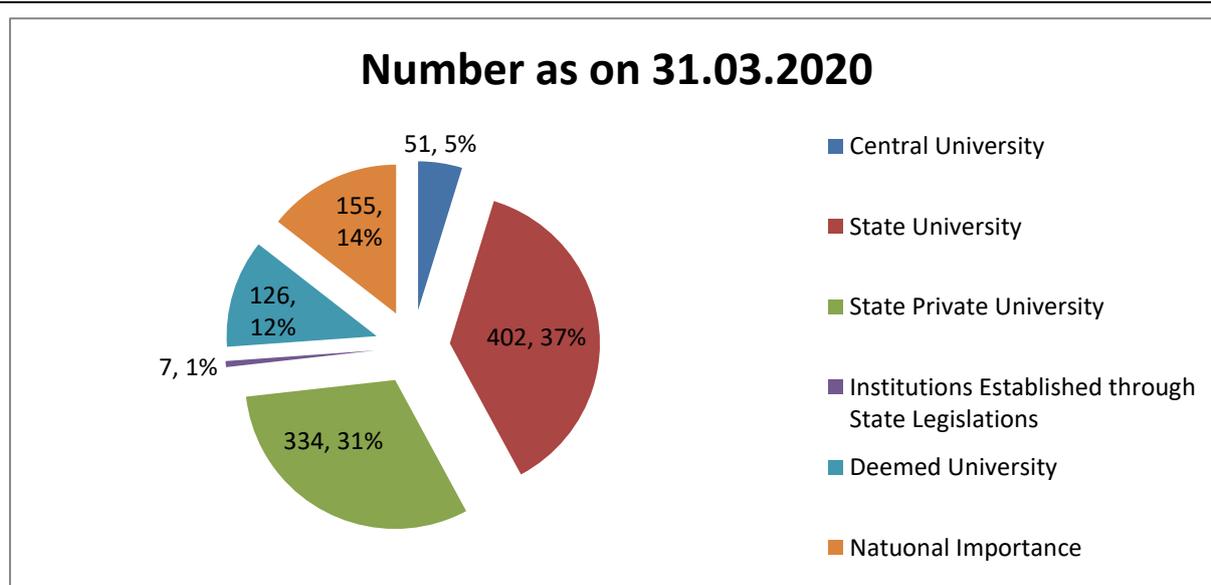


Fig 1: Graph showing the types of Universities in India as on 31.03.2020

With 83 universities, Rajasthan is the state with the highest number of universities followed by Uttar Pradesh with 75 universities. In the order of decreasing magnitude, the list is succeeded by Gujarat (67), Karnataka (61), Madhya Pradesh (59), and Maharashtra (58). All the states in India have universities with Goa being the last state with 1 university. The number of colleges and enrolments has also seen a rise over the years and stands at 40489 and 37399388 respectively as on the 31st day of March 2019. Of the total enrolments across

various colleges, female students have a representation of 48.64% scattered evenly across the states (Boyer, Moser, Ream & Braxton, 2015).

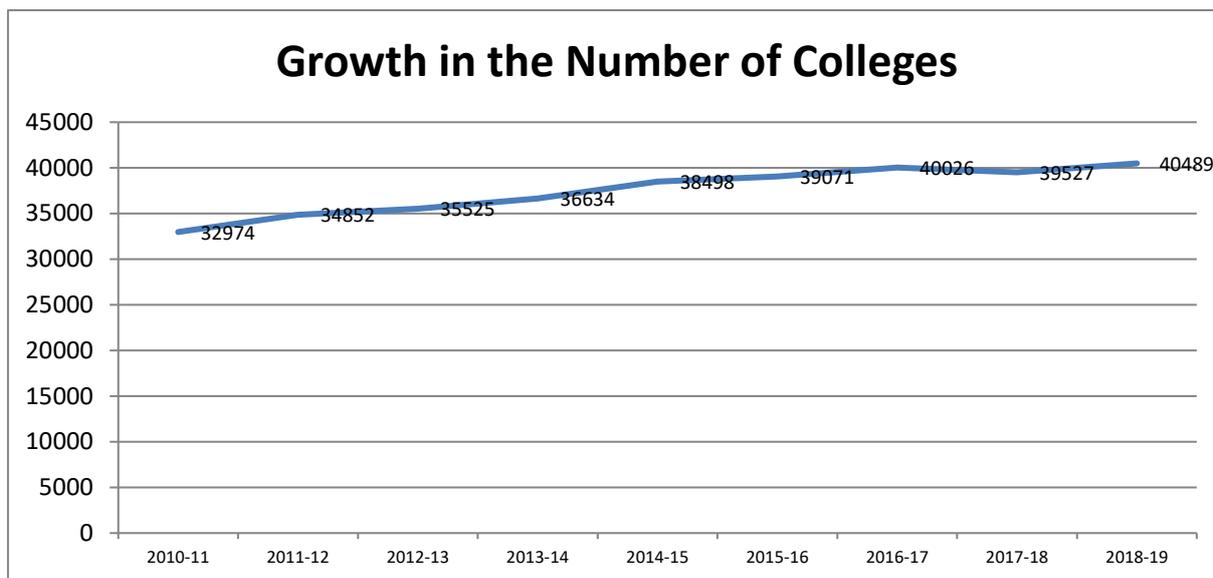


Fig 2: Graph depicting the growth in the number of colleges

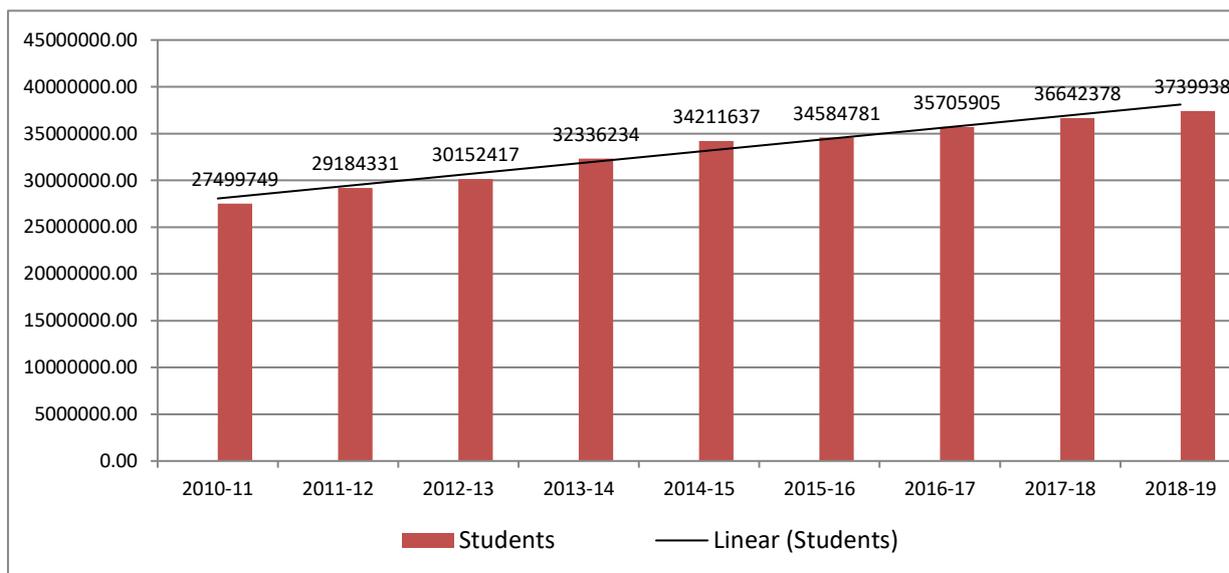


Fig 3: Graph depicting the growth in the number of enrolments

The students are scattered across all levels with the undergraduate level accounting for 81.2% of the total students. The percentage of students enrolled in M.Phil and Ph.D. is abysmally low at 0.1% and 0.5% respectively. The number of students aspiring to pursue post-graduation stand at 9.1% only showing a low level of interest in higher studies. 7.7% of the total students have enrolled themselves in diploma courses which is also low going by the global figures and also in comparison with China which holds the second position in higher education (Boyer, Moser, Ream & Braxton, 2015).

Level	Total Students	% to Total
Ph.D.	169117	0.5
M.Phil	30692	0.1
Post Graduate	3043435	9.1
Graduate	27128863	81.2
Post Graduate Diploma	125320	0.4
Diploma	2569201	7.7
Certificate	119879	0.4
Integrated	240813	0.7

Table 2: Number of enrolments across various levels

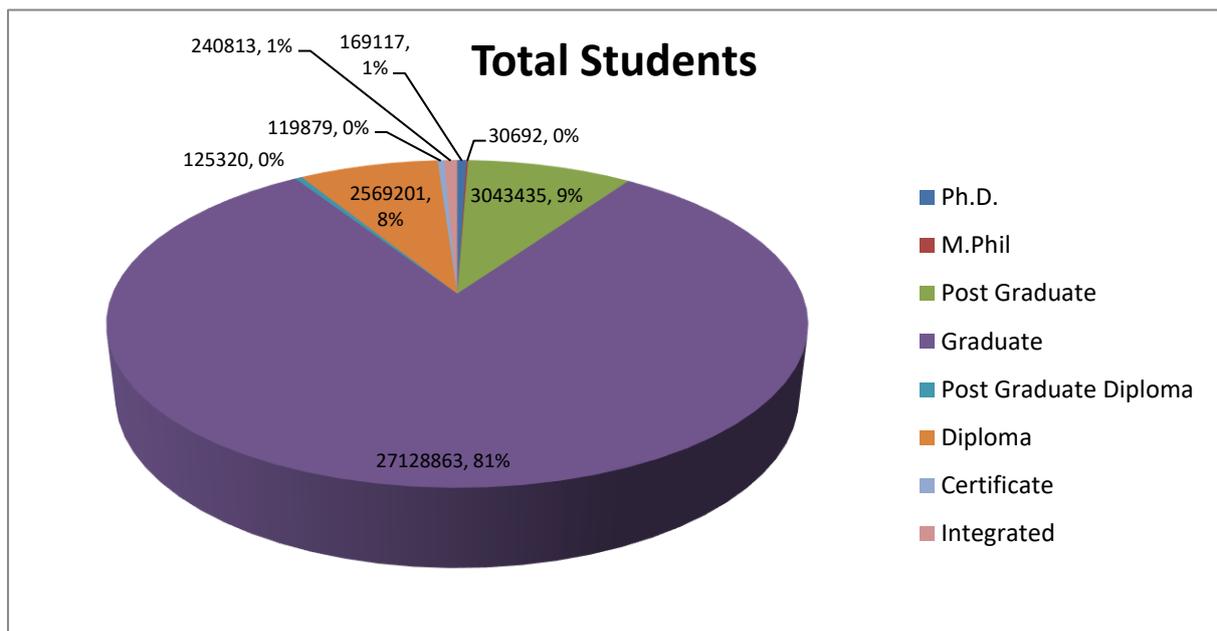


Fig 4: Graph depicting the number of enrolments across levels

The presence of international students also helps in the development of the institutes of higher education. Data provided by the University Grants Commission show that the participation of foreign students is very low with the highest representation recorded at 0.93% for Ph.D. followed by 0.41% in Certificate level course (Boyer, Moser, Ream & Braxton, 2015).

Level	Total Students	Foreign Students	Foreign Students as a % of total enrolment
Ph.D.	169117	1570	0.93
M.Phil.	30692	66	0.22
Post Graduate	3043435	7661	0.25
Graduate	27128863	34830	0.13
Post Graduate Diploma	125320	73	0.06
Diploma	2569201	2115	0.08
Certificate	119879	493	0.41
Integrated	240813	619	0.26

Table 3: Table showing foreign participation in Indian Universities

The teaching staff has an immense responsibility in maintaining the quality of education especially in institutes of higher learning. 12.50 lakh personnel have been engaged in imparting education to the students enrolled in various levels of education in India ([Boyer, Moser, Ream & Braxton, 2015](#)).

Table 4: Table showing the number of teaching staff in Indian Universities & Colleges

TEACHING STAFF IN HIGHER EDUCATION INSTITUTES AS ON 31.03.2019			
Designation	Universities	Affiliated Colleges	Total
Professor	35221	83235	118456
Associate Professor	27697	122460	150157
Assistant Professor	109667	752434	862101
Demonstrator	7412	39489	46901
Temporary Teachers	7720	65074	72794
Total	187717	1062692	1250409

Source: (E. Boyer, D. Moser, T. Ream & J. Braxton, *Scholarship reconsidered*, 1st ed., 2015)

Financial support has never been a cause for concern for educational institutes. During the year 2018-19, a total of Rs. 660860 lakhs have been granted to the central universities. An analysis of the data indicates high expenditure under salary as compared to others (Boyer, Moser, Ream & Braxton, 2015).

Table 5: Table showing the grant released to Central Universities

GRANTS RELEASED TO CENTRAL UNIVERSITIES AS ON 31.03.2019				
Rs. In lakhs				
Items	Recurring	Capital	Salary	Total
Central Universities	165004.66	42455.00	350400.00	557859.66
NER Central Universities	20000.00	5109.91	59540.57	84650.48
IMS-BHU	4668.00	8000.00	4832.00	17500.00
CU of Andhra Pradesh	200.00	500.00	100.00	800.00
CTU of Andhra Pradesh	50.00	0.00	0.00	50.00
Total	189922.66	56064.91	414872.57	660860.14

Source: UGC Annual Report 2018-19

As the name suggests, research involves the process of searching again. This process of 'searching again' enables exploration leading to new findings and defining the world in a new way. Research has always been propelled by steady financial support, which is termed as scholarship. Academic scholarship is an asset as it encourages researches which are necessitated by certain requirements that entail the discovery of new learning that can enhance the quality of life besides simplifying it ([Seat Information - JoSAA", 2020](#)).

Research not only helps the academicians by way of receiving financial support but goes a long way in devising the academic syllabus. The juxtaposition of theory and industry-oriented learning helps the learner especially in the field of management and technology. Research findings also find utility in policymaking and other issues of social relevance. Medical research can help save lives and increase our life-span. In a nutshell, research is an asset that every faculty, university, or nation wish to possess.

Grants and fellowships have never been a constraint in the field of research. The country provides grants and fellowships across a wide spectrum of levels from undergraduate to post-doctorate to encourage research. As per the Annual Report released by the University Grants Commission for the year 2018-2019, an amount of Rs. 1403.31 crores were disbursed as grants and fellowships to 72366 eligible aspirants during 2018-19 ([Boyer, Moser, Ream & Braxton, 2015](#)).

Table 6: Table showing the disbursement of grant/fellowships during 2018-19

DISBURSEMENT OF GRANTS/FELLOWSHIP DURING 2018-19			
Amount in crores			
Grants for Major Research Projects during 2018-19			
Subject	Amount	No. of Beneficiaries	
Humanities	2.314	227	
Space Research	9.1343	861	
Total	11.4483	1088	
Post Doctoral Fellowship during 2018-19			
Item	Amount	No. of Beneficiaries	
Candidates	62.49	1220	
Total	62.49	1220	
Research Fellowship for M.Phil/Ph.D during 2018-19			
Item	Amount	No. of Beneficiaries	
JRF (Domestic)	740.00	24850	
JRF (International)	0.52	27	
National Fellowship	278.78	7601	
BSR Fellowship	62.94	12905	
Non NET	57.82	-	
Total	1140.06	45383	
Post Graduate Scholarship Granted during 2018-19			
Item	Amount	No. of Beneficiaries	
Candidates	37.64	4705	
Total	37.64	4705	
Under Graduate Scholarship Granted during 2018-19			
Item	Amount	No. of Beneficiaries	
Candidates	151.67	19970	
Total	151.67	19970	
GRAND TOTAL	1403.31	72366	

Source: University Grants Commission Annual Report, 2018-19

2.2 Technical Education

Engineering Institutes: India accounts for 13686 engineering colleges admitting around 3303965 students annually. The institutes are divided into centrally funded organizations and state-funded organizations. These engineering institutes offer a variety of courses ranging from diploma courses to post-graduate courses. It is observed that the rate of upgradation to the post-graduate level is abysmally low. 8861 foreign students have also been enrolled in various B.Tech courses (IISER Admission, 2020).

Table 7: Table showing the number of engineering colleges in India

NUMBER OF ENGINEERING INSTITUTES IN INDIA

INSTITUTES	DIPLOMA		UNDER GRADUATE		POST GRADUATE	
	Number of Institutes	Seats	Number of Institutes	Seats	Number of Institutes	Seats
Indian Institute of Technology	0	0	23	13674	23	7934
National Institute of Technology	0	0	31	21133	31	10550
Indian Institute of Information Technology	0	0	25	4617	DNA	DNA
GFTI	0	0	30	25716	DNA	DNA
Other Engineering Institutes	0	0	4327	1451998	4282	DNA
Diploma Institutes	4814	1202673	0	0	0	0
TOTAL	4814	1202673	4436	1517138	4436	673254

Source: AICTE Annual Reports

IISER: Towards promoting interest in scientific education and research, the Government of India established the Indian Institute of Science Education and Research in 2006. At present, there are 7 IISERs located at various locations providing integrated BS-MS course, MS course, Integrated Ph.D., Ph.D., and Post Doctorate. IISER, Bhopal is the only institute offering BS course now. The BS-MS programme accommodates 1662 students, though the number of students at other levels varies across institutes. The admission strength in various levels of education in two of the IISERs is tabulated below (IISER Pune, 2020; IISERB, 2020; Indian Institute of Science, 2020).

Table 8: Table showing the number of admissions in IISERs

Name of IISER	BS-MS	Integrated Ph.D.	Ph.D.
IISER, Pune	937	189	309
IISER, Mohali	182	16	109

Source:]"IISER Admission - 2020", *iiseradmission.in*, 2020.

IISC: The Indian Institute of Science is a public, deemed university set up in Bangalore in the year 1909 to promote research in science, engineering, design, and management. The institute offers courses from the undergraduate level to Ph.D. As of 2020, 2199 students can be accommodated in Ph.D., 326 in Integrated Ph.D., 138 in MTech (Research), 683 students in MTech/Management/M. Design, 69 in M.Sc. while 507 students can be admitted into the B.Sc. course (MCI India, 2020).

Medical/Dental Colleges: To promote medical education in India, many government and private institutes have been established over the years. Both UG and PG courses are dispensed in these institutes. There are 532 government medical colleges and 64 standalone PG institutes. These institutes admit a large number of students the position as of 2020, is as under (Berbegal-Mirabent & Ribeiro-Soriano, 2015):

Table 9: Table showing the number of admission in medical/ dental colleges

UNDERGRADUATE MEDICAL STUDIES				
Type of College	MBBS		BDS	
	Number	Seat	Number	Seat
Private	260	35540	263	23260
Government	532	76928	313	26773
TOTAL	792	112468	576	50033

POSTGRADUATE MEDICAL STUDIES	
Type of Course	Seats
Doctorate in Medicine and Masters in Surgery	36192
Diplomate of National Board (DNB) Fellowship of National Board (FNB)	8000
TOTAL	44192

Source: "MCI India", *Mciindia.org*, 2020.

Management Institutes: There are 5200 management colleges in India spearheaded by 20 IIMs, government, and private management colleges (Khatri, Ojha, Budhwar, Srinivasan & Varma, 2012).

3.0 UNIVERSITY RANKINGS

Overview

Ranking of universities in a western concept though all the universities established globally have adopted the same due to the globalization and privatization of education. The increase of internationalization of higher education and research have also led to adopting the practice of ranking the universities based upon defined parameters. Rankings help the

administrators to adopt certain benchmark practices and incorporate guidelines for development and administration (Gruber, 2016).

The university rankings are done according to certain parameters developed by scholars and independent organizations (NIRF, 2020). The parameters are unique to any country and depend upon the ground realities prevalent in the country. However, certain parameters are common which include the number of admissions, international students, placements, teacher-to-student ratio, number of research papers published, international outlook, etc. In India, the ranking of institutes of higher education lies with the National Institutional Ranking Framework (NIRF), Atal Ranking of Institutions on Innovation Achievement (ARIIA), Times Higher Education (THE) and Quacquarelli Symonds (QS) rank universities on a global basis. There are various other ranking agencies but our study concentrates only on the report of the agencies mentioned above. We also make our comparison based on QS Rankings.

Parameters Used

The NIRF bases its ranking on 5 broad parameters (ARIIA, 2020):

1. Teaching, Learning, and Resources which includes Student Strength including Doctoral Students, Faculty Student Ratio, Combined Metric for Faculty with Ph.D. and Experience, and Financial Resources and their Utilization.
2. Research and Professional Practice which includes Combined Metric for Publications, Combined Metric for Quality of Publications, IPR and Patents: Published and Granted, and Footprints of Projects and Professional Practice.
3. Graduation Outcomes which include Metric for University Examinations, and Metric for Number of Ph.D. Graduated Students
4. Outreach and Inclusivity whose subparts include Percentage of Students from Other States/Countries (Region Diversity), Percentage of Women (Women Diversity), Economically and Socially Challenged Students, Facilities for Physically Challenged Students, and Perception Ranking
5. Peer Perception which includes Academic Peers and Employers

ARIIA also ranks universities on 5 parameters which are detailed below (*Times Higher Education (THE), 2020*):

1. Programs and Activities on IPR, Innovation, Start-up, and Entrepreneurship Organized (7.5 points)
 - Program Conducted by Institute Related to IPR, Entrepreneurship / Start-ups & Innovation
 - Participation / Representation of Students and (or) Faculties in Events / Programs related to IPR, entrepreneurship / Start-ups & Innovation organized by reputed external institutions or agencies at national or international level

2. Annual Budget Spent on Innovation & Start-up funding, Income & Expenditure towards Promoting and Supporting Innovation & Start-up in Campus (7.5 points)
3. Pre-Incubation & Incubation Infrastructure; Successful Innovation and Start-ups; and Funding, Expenses, and Income from Innovation & start-ups during any financial year. (48 points)
 - Innovation, Pre-Incubation & Incubation Centre/Facilities and Services.
 - Innovation, Pre-Incubation & Incubation Centre/Facilities exists in campus
 - Grants / Funds Received by Pre-Incubation & Incubation Centre / Facilities exists in Campus
 - Idea / Prototype / Innovation have received Grant / funding from Pre-Incubation / Incubation Centre / Facilities
 - Start-ups have received Grant / funding from Preincubation/Incubation Centre/Facilities
 - Co-Incubation Partnership
4. Courses on Innovation, IPR, and Entrepreneurship Development Offered by Institute during the previous Academic Period. (5 points)
5. IP Granted and Published; Tech Transfer and Commercialized (32 points)
 - Patent Granted and Published (Obtained from Third Party Source)
 - Technology Commercialization / Transfer

Times Higher Education ranks universities on 5 parameters as detailed below (University Rankings, 2020):

1. Teaching having a weightage of 30%. This parameter is further subdivided into 5 components: Reputation Survey (15%), Staff to Student Ratio (4.5%), Doctorate to Bachelor's Ratio (2.25%), Doctorates awarded to Academic Staff Ratio (6%), and Institutional Income (2.25%)
2. Research with a weightage of 30% has 3 components: Reputation Survey (18%), Research Income (6%), and Research Productivity (6%)
3. Citations that get 30% weightage.
4. International Outlook having a weightage of 7.5% has 3 sub-components: Proportion of International Students (2.5%), Proportion of International Staff (2.5%), and International Collaboration (2.5%)
5. Industry Income with 2.5% weightage.

Quacquarelli Symonds (QS) ranks universities based on 6 parameters ([Bajwa, 2018](#)) which are mentioned below with the weightage of the individual parameter.

1. Academic Reputation	Weightage 40%
2. Employer Reputation	Weightage 20%
3. Citations per Faculty	Weightage 20%

- | | |
|--------------------------|---------------|
| 4. Faculty Students | Weightage 10% |
| 5. International Faculty | Weightage 5% |
| 6. International Student | Weightage 5% |

Ranking of Indian Universities

We have compiled the list of the top 10 Indian universities for the year 2020 from the different agencies mentioned above and have compared the rankings of individual institutes among all the agencies.

RANKING OF INDIAN UNIVERSITIES

NAME	TIMES RANK		ACHIEVEMENTS ON VARIOUS PARAMETERS			
	2020		Number of FTE Students	Number of Students per Staff	International Students (%)	Male:Female Ratio
	INDIA	GLOBAL				
Indian Institute of Science, Bengaluru	1	301-350	4128	9.6	1	23:77
Indian Institute of Technology, Ropar	1	301-350	1119	7.6	0	13:87
Indian Institute of Technology, Indore	3	351-400	1128	9.7	0	17:83
Indian Institute of Technology, Bombay	4	401-500	10267	16.1	1	19:81
Indian Institute of Technology, Delhi	4	401-500	7284	14.8	1	20:80
Indian Institute of Technology, Kharagpur	4	401-500	9167	12.3	0	18:82
Institute of Chemical Technology	7	501-600	2146	18.2	0	34:66
Indian Institute of Technology, Gandhinagar	7	501-600	1222	11.2	0	22:78
Indian Institute of Technology, Roorkee	7	501-600	7591	16.4	2	16:84
Amrita Vishwa Vidyapeetham	10	601-800	14689	11.9	12	n/a
Benaras Hindu University, Varanasi	10	601-800	14953	11.3	3	10:90
University of Delhi	10	601-800	24547	23	1	47:53
Indian Institute of Scientific Education and Research, Pune	10	601-800	1274	9.5	0	32:68
Indian Institute of Technology, Bhubaneswar	10	601-800	1237	10.7	0	15:85
Indian Institute of Technology, Guwahati	10	601-800	5699	13.5	1	17:83
Indian Institute of Technology, Kanpur	10	601-800	6860	13.6	0	14:86
Indian Institute of Technology, Madras	10	601-800	9241	15.6	1	20:80
Indian Institute of Technology, Delhi	10	601-800	7938	13.9	4	52:48

Source: Times Higher Education (THE), 2020

RANKING OF INDIAN UNIVERSITIES

NAME	NIRF RANK		NAME	ARIIA RANK	
	2020			2020	
	INDIA			INDIA	
Indian Institute of Technology, Madras	1		Indian Institute of Technology, Madras	1	
Indian Institute of Science, Bengaluru	2		Indian Institute of Technology, Bombay	2	
Indian Institute of Technology, Delhi	3		Indian Institute of Technology, Delhi	3	
Indian Institute of Technology, Bombay	4		Indian Institute of Science, Bengaluru	4	
Indian Institute of Technology, Kharagpur	5		Indian Institute of Technology, Kharagpur	5	
Indian Institute of Technology, Kanpur	6		Indian Institute of Technology, Kanpur	6	
Indian Institute of Technology, Guwahati	7		Indian Institute of Technology, Mandi	7	
Jawaharlal Nehru University, New Delhi	8		National Institute of Technology, Calicut	8	
Indian Institute of Technology, Roorkee	9		Indian Institute of Technology, Roorkee	9	
Benaras Hindu University, Varanasi	10		University of Hyderabad	10	

Source: National Institute Ranking Framework, 2020; Atal Ranking of Institutions on Innovation Achievements, 2020

Table 10: Ranks obtained by various Indian universities as per different agencies

RANKING OF INDIAN UNIVERSITIES

NAME	QS RANK				
	2020		2021		
	INDIA	GLOBAL	INDIA	ASIA	GLOBAL
Indian Institute of Technology, Bombay	1	152	1	34	172
Indian Institute of Technology, Delhi	2	182	3	43	193
Indian Institute of Science, Bangalore	3	184	2	51	185
Indian Institute of Technology, Madras	4	271	4	50	275
Indian Institute of Technology, Kharagpur	5	281	5	56	314
Indian Institute of Technology, Kanpur	6	291	6	65	350
Indian Institute of Technology, Roorkee	7	383	9	90	383
University of Delhi	8	474	7	67	501-550
Indian Institute of Technology, Guwahati	9	491	10	112	470
University of Hyderabad	10	601-650	8	114	651-700
Jadavpur University	11	651-700	12	136	651-700
Amrita Vishwa Vidyapeetham	12	801-1000	41	271-280	801-1000
Benaras Hindu University, Varanasi	12	801-1000	19	177	801-1000

Source: "University Rankings", *Top Universities*, 2020

As observed from the tables above, parameters have a role to play in ranking the institutes. Indian Institute of Technology, Madras, for example, holds the first position in 2020 as per the National Institutional Ranking Framework and Atal Ranking of Institutions on Innovation Achievement. However, Times Higher Education ranks the Indian Institute of Technology, Madras at number 10 with the global ranking in the range 601 to 800. Quacquarelli Symonds ranks the Indian Institute of Technology, Madras at the fourth spot during 2020 and 2021 with international rankings at 184 and 185 respectively.

Table 11: Scores obtained by various Indian universities on various parameters

NAME	QS RANK						
	SCORES OBTAINED ON VARIOUS PARAMETERS, 2021						
	ACA. REPU.	EMP. REPU.	CITATIONS /FACULTY	FACULTY STUDENT S	INTER. FACULTY	INTER. STUDENT S	TOTAL
Indian Institute of Technology, Bombay	50.4	74.2	53.1	36.2	3.9	1.6	46
Indian Institute of Technology, Delhi	44.3	64.5	67.8	28.4	2.3	1.5	43.9
Indian Institute of Science, Bangalore	31.8	18.3	100	49.8	1.4	1.6	44.9
Indian Institute of Technology, Madras	34.1	50.1	50.9	31.5	2.6	1.5	35.5
Indian Institute of Technology, Kharagpur	26	39.2	70.2	21.7	4.9	1.1	33.2
Indian Institute of Technology, Kanpur	29	35	60.1	17.4	1.5	1.2	30.9
Indian Institute of Technology, Roorkee	13.8	19	92.7	11.7	1.1	2.7	28.7
University of Delhi	37.8	19.3	--	--	--	--	34.7
Indian Institute of Technology, Guwahati	11.9	15	77.2	15.9	1.4	--	25.1
University of Hyderabad	--	--	43.1	--	--	--	--
Jadavpur University	--	--	45.8	--	--	--	--
Amrita Vishwa Vidyapeetham	--	--	--	31.1	41.8	--	--
Benaras Hindu University, Varanasi	--	--	--	--	--	--	--

Source: "University Rankings", *Top Universities, 2020*

Indian Institute of Technology, Bombay which has been ranked at number 1 by Quacquarelli Symonds during 2020 and 2021 has scored 46 points in 2021 followed by the Indian Institute of Technology, Delhi, and the Indian Institute of Science, Bangalore at 43.9 and 44.9 respectively. This indicates the abysmally low points scored by the Indian institutes as compared to the United States of America or the People's Republic of China. A comparison of the ranking and scores of the five top institutes located in the United States of America and the People's Republic of China reveal that the Massachusetts Institute of Technology, USA occupies the first position among the global institutes as

Table 12: Rank and Scores obtained by various global universities on various parameters

NAME	2021 RANK			
	GLOBAL	ASIA	INDIA	OVERALL
Massachusetts Institute of Technology, USA	1	NA	NA	100
Stanford University, USA	2	NA	NA	98.4
Harvard University, USA	3	NA	NA	97.9
California Institute of Technology, USA	4	NA	NA	97
University of Oxford, UK	5	NA	NA	96.7
National University of Singapore, Singapore	11	1	NA	91.5
Nanyang Technological University, Singapore	13	2	NA	89.9
Tsinghua University, China	15	4	NA	89.2
Peking University, China	23	5	NA	83.5
The University of Tokyo, Japan	24	13	NA	83.2
Indian Institute of Technology, Bombay	172	34	1	46
Indian Institute of Science, Bangalore	185	51	2	44.9
Indian Institute of Technology, Delhi	193	43	3	43.9
Indian Institute of Technology, Madras	275	50	4	35.5
Indian Institute of Technology, Kharagpur	314	56	5	33.2

Source: "University Rankings", *Top Universities*, 2020

in 2021 followed by Stanford University, USA in the second position, Harvard University, USA in the third position. California Institute of Technology, USA, and the University of Oxford, UK have been ranked in fourth and fifth positions respectively. Among the Asian universities, the National University of Singapore, Nanyang Technological University, Tsinghua University, and the University of Tokyo have been ranked first, second, fourth, and fifth positions respectively. The positions of the Indian Universities seem dismal as compared to global universities.

Of the 5200 MBA Colleges present in India, only 5 institutes are listed by Quacquarelli Symonds in its global rankings for 2020. The institutes and their features are mentioned below.

Table 13: Rank obtained by MBA Institutes in India

INSTITUTE	GLOBAL RANK	ENROLMENT	% OF INTERNATIONAL STUDENTS	EMPLOYABILITY	% OF WOMEN STUDENTS
Indian Institute of Management, Ahmedabad	40	115	%	97%	17%
Indian Institute of Management, Bangalore	44	76	--	100%	17%

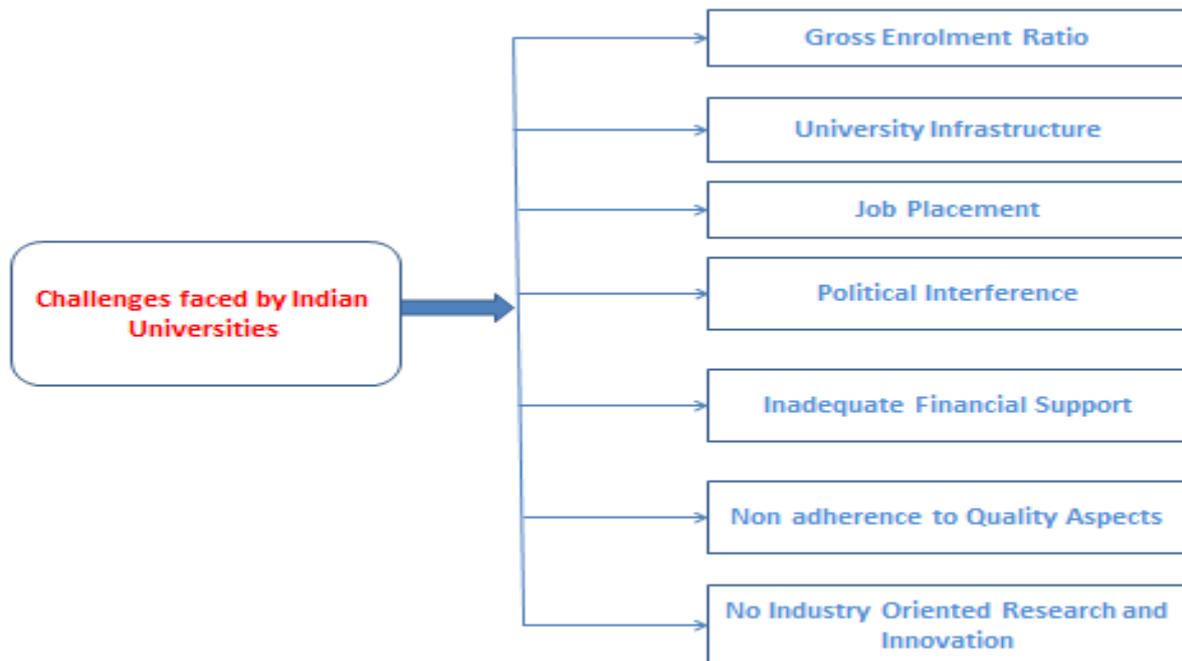
Indian School of Business, Hyderabad	98	896	2%	94%	39%
Indian Institute of Technology, Calcutta	101-110	62	--	100%	11%
S P Jain IMR	151-200	236	1%	100%	41%

Source: "University Rankings", *Top Universities*, 2020

Besides IIM, Calcutta all other institutes have scholarship facilities.

4.0 WHAT AILS INDIAN UNIVERSITIES

As discussed above, the rankings of Indian universities are very low compared to our Asian neighbors. Indian universities face several challenges that have been picturized below. The major challenges faced by Indian universities include low enrolment, lack of infrastructure, inadequate job placement, political interference, inadequate financial support, non-adherence to quality, and lack of industry-based research (Meyer, 2006). In the subsequent sections, we try to understand the challenges in detail.



Enrolment Ratio: Admissions into the degree courses are very low in India. Most of the students drop out after secondary or higher secondary levels. The Government of India has been trying to increase the number of enrolments in higher education and plans to enroll 30% of the students into the degree course. Our gross enrolment ratio is lower as compared

to China and Brazil (Meyer, 2006). Various factors can be held responsible for such low figures such as economic factors, lack of awareness and motivation, lack of easy access to institutes, improper admission procedures, adoption of unlawful procedures, etc. The Government should, therefore, regulate the procedures and remove the bottlenecks and bring in more transparency (Meyer, 2006).

University Infrastructure: Indian universities lack quality education at the graduate and post-graduate levels due to a lack of proper infrastructure. ICT, an equipped and well-stocked library, access to research papers, proper reading rooms are some of the amenities that should be provided to enthuse the students towards a better result (Yeravdekar & Tiwari, 2014; Meyer, 2006), besides providing the learners with a pool of the best faculty (Mayer, 2006; Pelger and M. Grosttke, 2015). Other than some institutions which are promoted by the corporates like the Indian School of Business and certain other institutes like the IITs, IISc, and the IIMs, Indian universities fail to book a spot among the global rank holders. As regards doctoral research, many of the Ph.D. scholars are unaware of publishing their work in online journals. Surprisingly, 'high-impact journal' is an alien term to many scholars. Another barrier to research is the poor culture and research environment prevalent in Indian universities which do not encourage such an endeavor (Yeravdekar & Tiwari, 2014; Meyer, 2006). All students aspiring for research should be subjected to certain training sessions that would enhance their ability to access journals and databases, learn techniques of data analysis, paper development skills, etc. In matters of policy, the government should ensure that good researchers are incentivized to improve the performance of the university (Reports - NASSCOM Community, 2020; Meyer, 2006).

Job Placement: The quality of education and skills imparted to the students at undergraduate and postgraduate levels are not able to place them in the corporate world. The set of skills that are taught have failed to adapt to the changing scenario making them obsolete. In the words of Peter Drucker: *'The only skill that will be important in the 21st century is the skill of learning new skills. Everything else will become obsolete over time'*. As per a report published by NASSCOM, the industrial sector is undergoing a major transformation that would change the scope of 4 million jobs globally in the next 5 years with the discontinuance of some and emergence of others. The new era would require personals proficient in big data analytics, AI-ML, IoT, Robotics, Cybersecurity, etc. This calls for the development of an industry-driven learning ecosystem. To cater to the new needs, a plan should be put in place to train the maximum students in the field of emerging technologies (The Times of India, 2020).

Lack of Industry Oriented Research: The universities in the major emerging economies have a competitive advantage due to the allocation of resources for the establishment of incubation centers towards promoting entrepreneurship. In India, the corporates lament the lack of skills and talents among job-seekers though millions of youths pass out from universities annually (Schroder, Welter, Leisten, Richert & Jeschke, 2014). This calls for a major shift in our curricula. Institutions should emulate the best practices from global universities and lay focus on the design of the curriculum, the course materials, the faculty,

and encourage collaboration with global institutes for research. These efforts, besides making the candidates job-ready, make our universities competitive in the global arena. Both the universities and the companies should set up research hubs that would benefit both the faculties and the students in understanding the needs of the industries.

Quality Aspects: Though Indian universities fare poorly in global rankings; certain aspects of quality have to be improved upon. University curricula need a clear definition, design, and dedication to bring in a sense of competition and meet industry needs. India has several autonomous ranking institutions whose standards of assessment are arguably dubious, being influenced by a variety of other factors. Many academics also argue that the grading of publications and presentations lack credibility. Indian universities also need to look into certain aspects like governance, quality, policy changes, and research requirements. It has been suggested by many scholars that the leadership and administrative powers should be shifted from the political class to the chief administrator who has to be a professional having high education and moral standards.

Lack of Financial Support: Institutes of higher learning has witnessed a decline in financial support from the early days of independence when huge funds had been allocated for the establishment of institutes of national importance besides the state-run universities. A visit to any state-run university is enough to transport one to the old days. The basic infrastructure like state-of-the-art classrooms, internet facilities within the campus, and the hostels seem to be missing from most of the universities. Over the years the governments have pumped in money which has been utilized for unproductive activities. A post-doctoral fellowship for studying unemployment among doctorate women is a classic example of misutilization. The chief administrator should be given the power to decide the utility of the funds that are made available. It should be realized that the tax-payers are paying for studies that do not benefit them in any manner. The concerned authorities should design schemes that benefit the local populace and bring in a high level of transparency.

Political Interference: The influence of political class in universities is a global phenomenon in varying degrees and the topic that finds mention in many of the literature (Stensaker, Frølich, Huisman, Waagene, Scordato & Pimentel Bótas, 2014). Studies in China also point towards the difficulties faced due to such interferences (Xie, Zhang & Lai, 2014). The situation in India is no different as the politically influenced class has opened their educational institutes from primary to post-graduate levels including technical institutions. The appointment of the chief administrator and the faculties is often interfered with by the political class. Other factors like reservations etc have also been detrimental to the growth of Indian universities.

6.0 COMPARITIVE ANALYSIS OF GLOBAL UNIVERSITIES vis-à-vis INDIAN UNIVERSITIES

From the Quacquarelli Symonds rankings for 2021, we have considered the top 5 universities from the global arena, Asia, and India, and have compared them on the parameters used by the rating agency. On the global level, the top 5 spots are shared by universities located in the United States of America and the United Kingdom, while

universities in Singapore, China, and Japan occupy the top 5 positions in Asia. The best Indian Institute ranks 34th and 172nd in Asia and at the global level respectively (Bajwa, 2018).

NAME	SCORES						
	OVERALL	ACA. REPU	EMP. REPU	CITATION/ FACULTY	FACULTY STUDENT RATIO	INTER. FACULTY RATIO	INTER. STUDENT RATIO
Massachusetts Institute of Technology, USA	100	100	100	99.1	100	100	91.9
Stanford University, USA	98.4	100	100	98.1	100	99.7	63.6
Harvard University, USA	97.9	100	100	99.1	98.6	88.2	69.9
California Institute of Technology, USA	97	97	82.8	99.9	100	100	88.2
University of Oxford, UK	96.7	100	100	81.3	100	99.4	98.3
National University of Singapore, Singapore	91.5	99.7	98.4	72.9	90.7	100	71.4
Nanyang Technological University, Singapore	89.9	89.8	89.8	89	91.5	100	67.6
Tsinghua University, China	89.2	98.2	98.6	83.2	93.3	55.3	29.7
Peking University, China	83.5	99.2	99.1	64.9	76.4	69.7	34.3
The University of Tokyo, Japan	83.2	100	99.6	62.5	92.3	10.7	26.1
Indian Institute of Technology, Bombay	46	50.4	74.2	53.1	36.2	3.9	1.6
Indian Institute of Science, Bangalore	44.9	31.8	18.3	100	49.8	1.4	1.6
Indian Institute of Technology, Delhi	43.9	44.3	64.5	67.8	28.4	2.3	1.5
Indian Institute of Technology, Madras	35.5	34.1	50.1	50.9	31.5	2.6	1.5
Indian Institute of Technology, Kharagpur	33.2	26	39.2	70.2	21.7	4.9	1.1

- (i) The 5 top global universities have a near-perfect score on academic reputation which has also been replicated by universities in the Asian countries. The scores of Indian universities are very low on this aspect barring IIT, Bombay which has recorded a score of 50.4.
- (ii) The scores on employee reputation also follow the same pattern as the previous parameter. However, both IIT, Bombay, and IIT, Delhi are not far behind.
- (iii) In respect of citations per faculty, the scores of Indian institutes are at par with the top universities both global and Asian. IISc, Bangalore, however, surpasses them all with a score of 100.
- (iv) The ratio of faculty to students is very low in Indian universities which are reflected in the scores obtained by the institutes.
- (v) The number of international faculties and students in Indian institutes is very low. The scores obtained by Indian institutes are very low as compared to other universities.

Overall, the performances of Indian institutes are much below the international standards.

6.0 POLICY INITIATIVES

Funding: Research is an important element in all institutes of higher education. It not only adds value to the institute but also improves its ranking. Good quality research requires a host of facilities like improved infrastructure, talented faculty, access to high-impact journals, etc. for which funding is necessary. India spends 4.6% of its Gross Domestic Product on education which is higher than China (4.11%), and the United Kingdom (4.1%) but lower than the United States (6.2%) as per 2019 figures.

Collaborative Research: Local universities can derive benefits when they adopt the best practices followed by the best global institutes. The best approach would be to undertake collaborative research. Local universities should be encouraged to collaborate with foreign institutions in research activities. This would help the faculties and the students through the exchange of ideas and improvement of skills in specific domains. The learnings can be used in a variety of ways like designing the university curricula, assessment criteria, and also in future research which would benefit the society at large. State-run universities in India can also start student and faculty exchange programmes to help them imbibe the best through the learning experience.

Creation of an Assessment Council: An autonomous assessment council under the Ministry of Human Resource Development and the University Grants Commission should be set up with seniors' scholars, international academics, and government officials as its members. The scope of the council should revolve around

the detection of frauds, malpractices, and forgeries at all levels of research.

recommending the best research for incentives.

coordinating with global ranking agencies to provide training to our stakeholders on all the parameters adopted by them.

conducting periodical workshops.

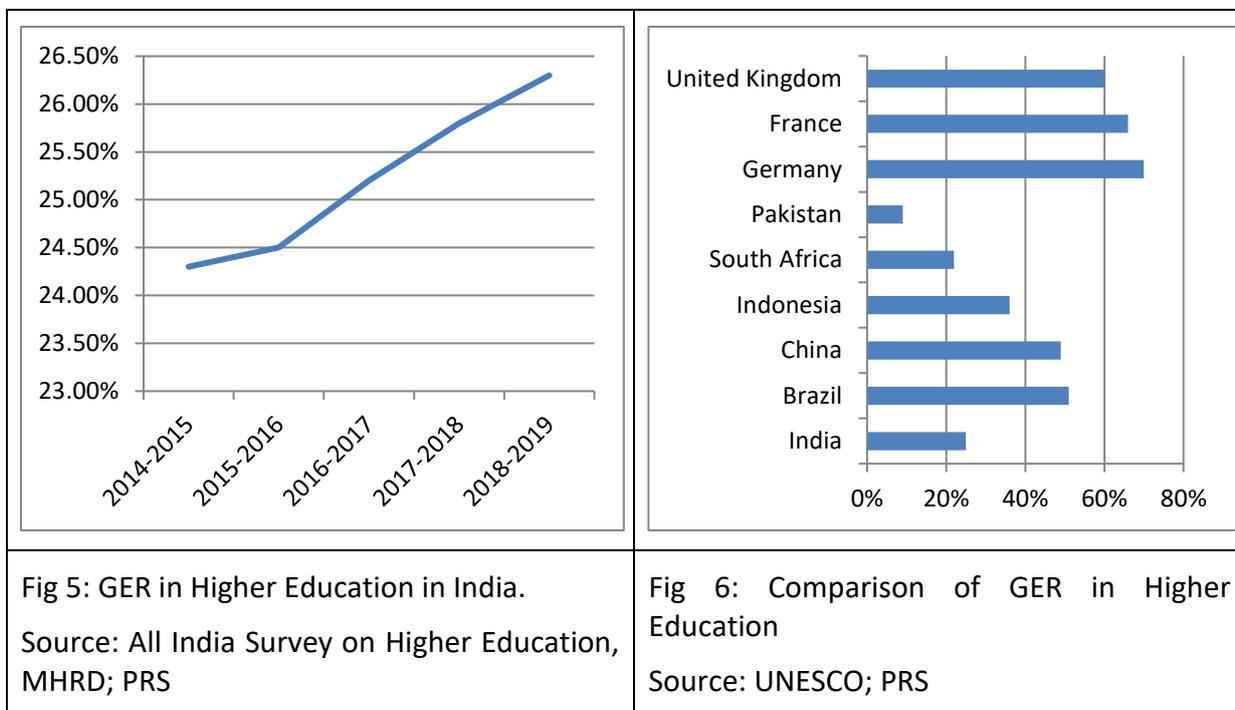
Above all researchers in India should adhere to the fact that the aim of any researcher lies in the discovery of new things and the creation of knowledge through the publication of good research ([NIRF, 2020](#)).

7.0 RECOMMENDATIONS OF THE NATIONAL EDUCATION POLICY, 2020 TO IMPROVE THE QUALITY OF HIGHER EDUCATION IN INDIA

The National Education Policy, 2020 announced by the central government on the 30th day of July 2020 replaces the National Policy on Education, 1986. The new policy recommends certain schemes and policies to universalize education in India and also improve the quality of higher education. The recommendations aimed specifically at improving the quality of higher education are enumerated below:

Increasing the Gross Enrolment Ratio: The NEP proposes to increase the gross enrolment ratio (GER) in higher education to 50% by 2035. As of 2018-19, the GER in higher education

stood at 26.3%. The country has witnessed an annual growth rate of 2% in GER over the last few years. Further, India also ranks amongst the lowest in terms of gross enrolment ratio in higher education. The NEP, 2020 recommends that for enhancement in GER, the existing institutes of higher education have to be restructured and expanded to increase their capacity. Also, all institutes should strive towards becoming multi-disciplinary institutes, with one such institute in every district by 2030. Further, in a bid to improve the access to higher education both open distant learning and online programs should be encouraged.



Restructuring of the institutes of higher learning: The higher education system in India is fragmented with complex nomenclature like ‘deemed university’, ‘technical university’ etc. The NEP plans to de-fragment these by renaming these as ‘university’. As per the All-India Survey on Higher Education 2019-20, India is home to 1075 universities, besides colleges, polytechnics, and teacher training institutes. The NEP recommends restructuring these into three categories: research universities concentrating on teaching and research, teaching universities with a primary focus on teaching, and degree-granting colleges focused on undergraduate teaching. Further, all these institutes would graduate into autonomous institutions in a phased manner.

Setting a National Research Foundation to boost research: Investment in research and innovation in India is very low at 0.69 percent of GDP and lags behind many countries. The total investment in R&D as a proportion of GDP has remained stagnant at around 0.7%. During 2018-19, the total expenditure on R&D was Rs. 1,23,848 crores, of which Rs. 72,732 crores were spent by the government and the balance by private industries.

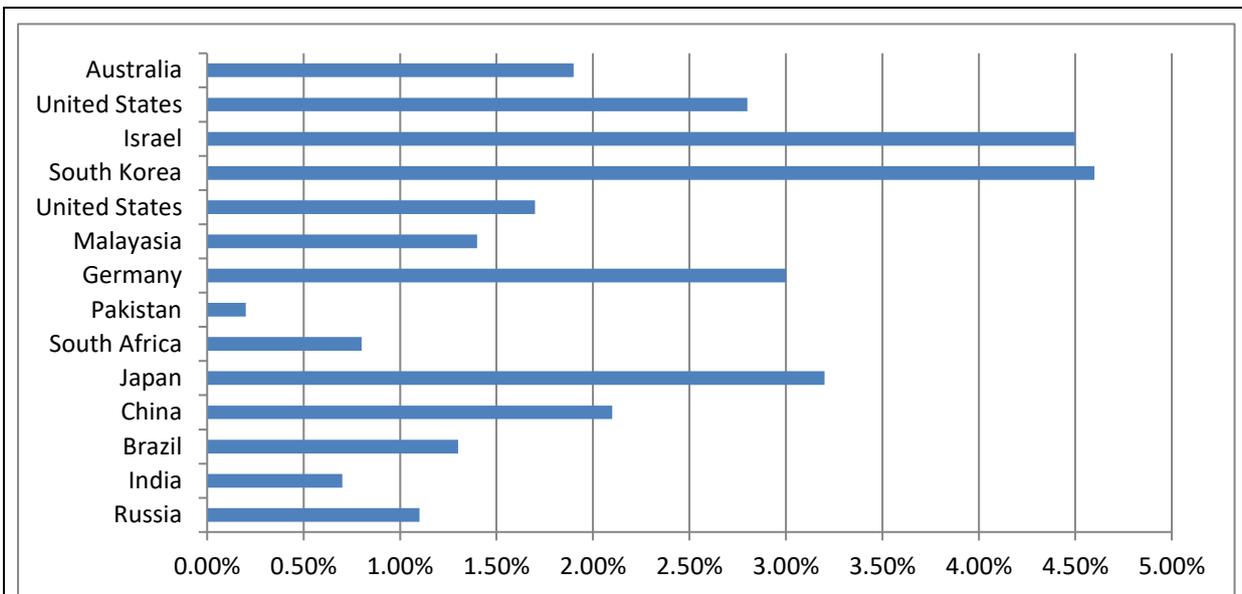


Fig 7: Comparison of expenditure on R&D as of 2017.

Source: S&T Indicators Table 2019-20, Ministry of Science and Technology, March 2020; PRS

To boost research, NEP has recommended the setting up of an independent National Research Foundation to fund and facilitate quality research in India. The foundation would act as a liaison between researchers and branches of government and the industry. Certain specialized institutions like the Department of Science and Technology and the Indian Council of Medical Research will continue to fund independent projects. The foundation in collaboration with such institutes would help in removing duplication.

Increasing public spending on education to 6%: India ranks amongst the lowest countries regarding public spending on higher education. The National Policy on Education framed in 1968 recommended increasing public spending on education to 6 percent of GDP, a fact that has been reiterated by the policy of 1986. The NEP 2020 further reaffirms the recommendations of increasing public spending on education to 6 percent of GDP. There is also a disparity within states in public spending on education. In 2020-2021, 15.7 percent of the total annual budget has been allocated towards education. States like Delhi, Rajasthan, and Maharashtra have allocated nearly 18 percent of their expenditure on education during 2020-21 while states like Telangana, Andhra Pradesh, and Punjab lack in this regard.

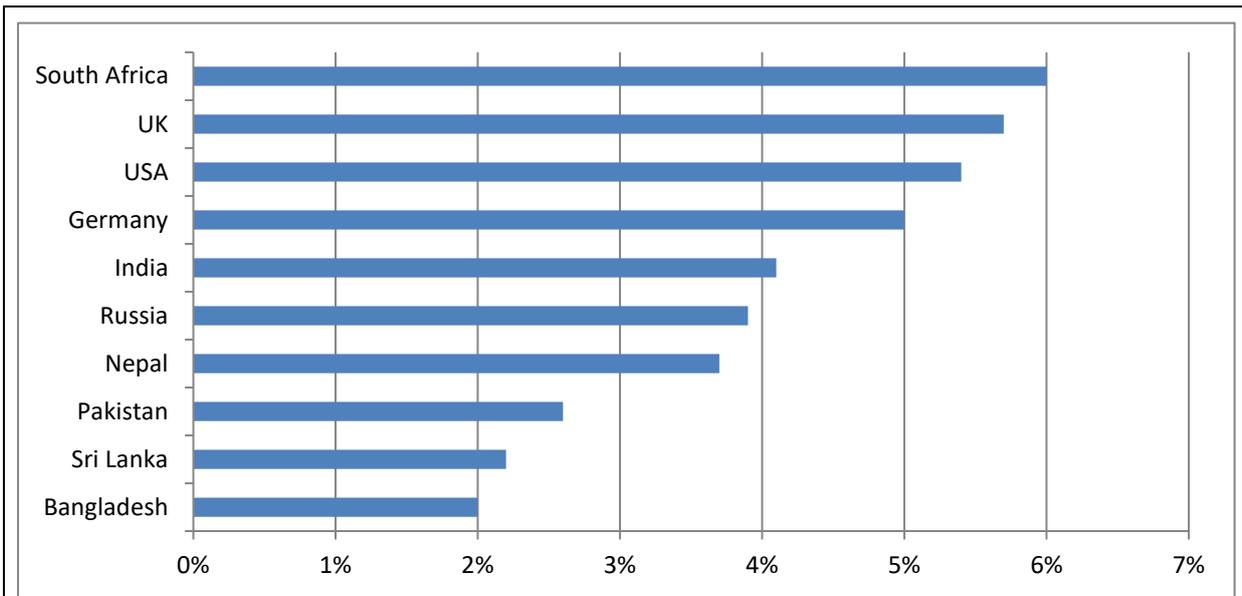


Fig 8: Comparison of public spending on education as % of GDP (2015)

Source: Educational statistics at a glance, 2018, MHRD; PRS

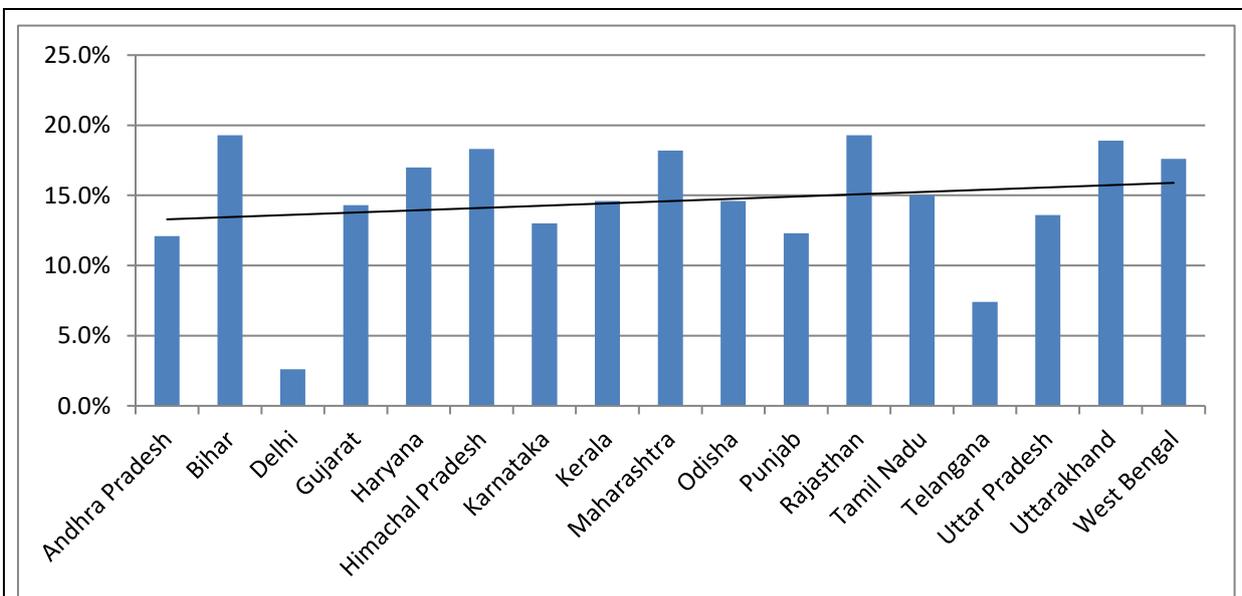


Fig 9: Budgeted allocation on education by some states for 2020-2021

Source: State Budget Documents; PRS

Maurya, A. & Ahmad, A. (2020) gave some recommendation related to National Educational Policy which help to improve quality of education in higher education.

8.0 CONCLUSION

This paper aimed to analyze the ranking of institutes of higher learning in the Indian perspective and compare the same with high-ranking universities both globally and in Asia. This would enable understanding of the lacunae in Indian universities and undertake corrective measures on all fronts. The researcher has collected the data from different credible sources and have analyzed the same using deductive and inductive logic. For strategic reasons, I have divided the paper into smaller segments. I had introduced higher education and its importance in socio-economic developments citing various research works undertaken earlier. The segment was then followed by a detailed account of the status of higher education in India. It elaborated the developments of higher education on all parameters ranging from the establishment of institutes to funding patterns to enrolments among others. The highlight of the research article was the rankings of universities where I have discussed the parameters adopted by various rating agencies and the ranks obtained by Indian institutions. The dismal performance of Indian universities leads me to analyze the causes for such poor performance which forms apart of this topic. I had also dedicated a section where I had compared the performance of the five best Indian universities with the five best global universities and five best Asian universities. To conclude, the last segment of the research article has been dedicated to suggestions and solutions for this performance, and providing a road map for the ensuing years was minutely looked into.

Based on statistical analyses we see that private participation in higher education has increased since 1991. The expenditure on education as a percentage of GDP is sufficiently higher than most global economies, though the number of research publications is relatively low. It is a fact that despite language barriers, Chinese universities produced more high-impact papers than Indian universities. It was also observed that no Indian university finds a place in the list of top 100 global universities. The percentage of foreign students studying in Indian universities is relatively lower than most other universities. The position of international faculty is no different.

I strongly feel the need to improve the existing infrastructure of our universities and both the students and the faculties should get access to internet facilities and research publications. This research should be industry-oriented and participation of the industry is also recommended. Public-private partnerships in the funding of research projects can be an alternative. The institutes of higher learning should be professionally managed with minimum intervention from the states except under compelling circumstances. The function of the chief administrator assumes large importance and hence should be the best. Our universities should also collaborate with the best global universities to emulate the best practices adopted by them. Student/faculty exchange programmes can also be considered as a viable proposition.

REFERENCE

- Abramo, G., Cicero, T., & D'Angelo, C., "The impact of unproductive and top researchers on overall university research performance", *Journal of Informetrics*, vol. 7, no. 1, pp. 166-175, 2013. Available: 10.1016/j.joi.2012.10.006.
- "ARIIA | Atal Ranking of Institutions on Innovation Achievements", *Ariia.gov.in*, 2020. [Online]. Available: <https://www.ariia.gov.in/>.
- Bajwa, D., "HIGHER EDUCATION IN INDIA: CHALLENGES AND OPPORTUNITIES", *SOCIETY. INTEGRATION. EDUCATION. Proceedings of the International Scientific Conference*, vol. 1, 2018. Available: 10.17770/sie2018vol1.3338.
- Berbegal-Mirabent, J., & Ribeiro-Soriano, D. "Behind league tables and ranking systems", *Journal of Service Theory and Practice*, vol. 25, no. 3, pp. 242-266, 2015. Available: 10.1108/jstp-04-2013-0059.
- Berlemann, M., & Haucap, J., "Which factors drive the decision to opt out of individual research rankings? An empirical study of academic resistance to change", *Research Policy*, vol. 44, no. 5, pp. 1108-1115, 2015. Available: 10.1016/j.respol.2014.12.002.
- Boyer, E., Moser, D., Ream, T., & Braxton, J., *Scholarship reconsidered*, 1st ed, 2015.
- Chinta, R., Kebritchi M., & Elias, J., "A conceptual framework for evaluating higher education institutions", *International Journal of Educational Management*, vol. 30, no. 6, pp. 989-1002, 2016. Available: 10.1108/ijem-09-2015-0120.
- Daraio, C., Bonaccorsi, A., & Simar, L., "Rankings and university performance: A conditional multidimensional approach", *European Journal of Operational Research*, vol. 244, no. 3, pp. 918-930, 2015. Available: 10.1016/j.ejor.2015.02.005.
- Ding, L., & Zeng, Y. "Evaluation of Chinese higher education by TOPSIS and IEW — The case of 68 universities belonging to the Ministry of Education in China", *China Economic Review*, vol. 36, pp. 341-358, 2015. Available: 10.1016/j.chieco.2015.05.007.
- Frølich, N., Kalpazidou Schmidt, E., & Rosa, M., "Funding systems for higher education and their impacts on institutional strategies and academia", *International Journal of Educational Management*, vol. 24, no. 1, pp. 7-21, 2010. Available: 10.1108/09513541011013015.
- Gonzalez-Brambila, C., Jenkins, M., & Lloret, A., "Challenges for scholarly business research in Latin America", *Journal of Business Research*, vol. 69, no. 2, pp. 383-387, 2016. Available: 10.1016/j.jbusres.2015.06.042.
- Gruber, T., "Academic sell-out: How an obsession with metrics and rankings is damaging academia", *Zbornik Matice srpske za drustvene nauke*, no. 154, pp. 161-172, 2016. Available: 10.2298/zmsdn1654161g.
- "Home", *Times Higher Education (THE)*, 2020. [Online]. Available: <https://www.timeshighereducation.com/>.

- Huang, M., "Exploring the h-index at the institutional level", *Online Information Review*, vol. 36, no. 4, pp. 534-547, 2012. Available: 10.1108/14684521211254059.
- "IISER Admission - 2020", *iiseradmission.in*, 2020. [Online]. Available: <http://www.iiseradmission.in/>.
- "IISER Pune", *iiserpune.ac.in*, 2020. [Online]. Available: <http://www.iiserpune.ac.in/>.
- "IISERB", *iiserb.ac.in*, 2020. [Online]. Available: <https://www.iiserb.ac.in/>.
- "Indian Institute of Science", *iisc.ac.in*, 2020. [Online]. Available: <https://www.iisc.ac.in/>.
- Jabnoun, N., "The influence of wealth, transparency, and democracy on the number of top-ranked universities", *Quality Assurance in Education*, vol. 23, no. 2, pp. 108-122, 2015. Available: 10.1108/qae-07-2013-0033.
- Jöns, H., & Hoyler, M., "Global geographies of higher education: The perspective of world university rankings", *Geoforum*, vol. 46, pp. 45-59, 2013. Available: 10.1016/j.geoforum.2012.12.014.
- Kantola, M., & Kettunen, J., "Integration of education with research and development and the export of higher education", *On the Horizon*, vol. 20, no. 1, pp. 7-16, 2012. Available: 10.1108/10748121211202026.
- Khatri, N., Ojha, A., Budhwar, P., Srinivasan, V., & Varma, A. (2012). Management research in India: Current state and future directions. *IIMB Management Review*, 24(2), 104-115. doi: 10.1016/j.iimb.2012.05.002
- Li, X., Roberts, J., Yan, Y., & Tan, H., "Knowledge sharing in China–UK higher education alliances", *International Business Review*, vol. 23, no. 2, pp. 343-355, 2014. Available: 10.1016/j.ibusrev.2013.05.001.
- Lin, C., Huang, M., & Chen, D., "The influences of counting methods on university rankings based on paper count and citation count", *Journal of Informetrics*, vol. 7, no. 3, pp. 611-621, 2013. Available: 10.1016/j.joi.2013.03.007.
- Menon, S.T., "A quarter century of management research in South Asia – I", *South Asian Journal of Global Business Research*, vol. 5, no. 1, pp. 2-31, 2016. Available: 10.1108/sajgbr-06-2015-0043.
- Meyer, K., "Asian management research needs more self-confidence", *Asia Pacific Journal of Management*, vol. 23, no. 2, pp. 119-137, 2006. Available: 10.1007/s10490-006-7160-2.
- "MCI India", *Mciindia.org*, 2020. [Online]. Available: <https://www.mciindia.org/CMS/>.
- "MHRD, National Institute Ranking Framework (NIRF)", *Nirfindia.org*, 2020. [Online]. Available: <https://www.nirfindia.org/>.
- Michael Hall, C., "Publish and perish? Bibliometric analysis, journal ranking and the assessment of research quality in tourism", *Tourism Management*, vol. 32, no. 1, pp. 16-27, 2011. Available: 10.1016/j.tourman.2010.07.001.

- Millot, B., "International rankings: Universities vs. higher education systems", *International Journal of Educational Development*, vol. 40, pp. 156-165, 2015. Available: 10.1016/j.ijedudev.2014.10.004.
- Moed, H., de Moya-Anegón, F., López-Illescas, C. & Visser, M., "Is concentration of university research associated with better research performance?", *Journal of Informetrics*, vol. 5, no. 4, pp. 649-658, 2011. Available: 10.1016/j.joi.2011.06.003.
- Neri, F., & Rodgers, J., "The Contribution of Australian Academia to the World's Best Economics Research: 2001 to 2010", *Economic Record*, vol. 91, no. 292, pp. 107-124, 2014. Available: 10.1111/1475-4932.12165.
- "Over 80% of engineering graduates in India unemployable: Study - Times of India", *The Times of India*, 2020. [Online]. Available: <https://timesofindia.indiatimes.com/tech-news/Over-80-of-engineering-graduates-in-India-unemployable-Study/articleshow/50704157.cms>.
- Padalkar, M., & Gopinath, S., "Do Indian management practices drive global research agenda?", *Journal of Indian Business Research*, vol. 7, no. 2, pp. 108-139, 2015. Available: 10.1108/jibr-01-2015-0009.
- Pelger, C., & Grosttko, M., "What about the future of the academy? – Some remarks on the looming colonisation of doctoral education", *Dx.doi.org*, 2015. [Online]. Available: <http://dx.doi.org/10.1016%2Fj.cpa.2014.09.007>.
- Prathap, G., "The performance of research-intensive higher educational institutions in India", *Current Science*, vol. 107, pp. 389-396, 2014.
- "Reports - NASSCOM Community |The Official Community of Indian IT Industry", *NASSCOM Community |The Official Community of Indian IT Industry*, 2020. [Online]. Available: <https://community.nasscom.in/report>.
- Sahoo, B., Singh, R., Mishra, B., & Sankaran, K., "Research productivity in management schools of India during 1968-2015: A directional benefit-of-doubt model analysis", *Omega*, vol. 66, pp. 118-139, 2017. Available: 10.1016/j.omega.2016.02.004.
- Saisana, M., d'Hombres, B., & Saltelli, A., "Rickety numbers: Volatility of university rankings and policy implications", *Research Policy*, vol. 40, no. 1, pp. 165-177, 2011. Available: 10.1016/j.respol.2010.09.003.
- Schroder, S., Welter, F., Leisten, I., Richert A., & Jeschke, S., "Research performance and evaluation--Empirical results from collaborative research centers and clusters of excellence in Germany", *Research Evaluation*, vol. 23, no. 3, pp. 221-232, 2014. Available: 10.1093/reseval/rvu010.
- "Seat Information - JoSAA", *Josaa.nic.in*, 2020. [Online]. Available: <https://josaa.nic.in/seainfo/root/seatmatrix.aspx>.

- Sheel, R., & Vohra, N., "Fostering Academic Research among Management Scholars in India: An Introduction to the Special Issue", *Vikalpa: The Journal for Decision Makers*, vol. 39, no. 2, p. v-xi, 2014. Available: 10.1177/0256090920140201
- Stensaker, B., Frølich, N., Huisman, J., Waagene, E., Scordato, L., & Pimentel Bótas, P., "Factors affecting strategic change in higher education", *Journal of Strategy and Management*, vol. 7, no. 2, pp. 193-207, 2014. Available: 10.1108/jsma-12-2012-0066.
- "University Rankings", *Top Universities*, 2020. [Online]. Available: <https://www.topuniversities.com/university-rankings>.
- Usher, A., & Savino, M., "A World of Difference. A Global Survey of University League Tables.", 2006.
- Xie, Y., Zhang, C., & Lai, Q., "China's rise as a major contributor to science and technology", *Proceedings of the National Academy of Sciences*, vol. 111, no. 26, pp. 9437-9442, 2014. Available: 10.1073/pnas.1407709111.
- "University Grants Commission: Annual Reports/ Annual Accounts", *Ugc.ac.in*, 2020. [Online]. Available: <https://www.ugc.ac.in/page/Annual-Report.aspx>.
- Venkatesh, U., "Balanced Scorecards in Managing Higher Education Institutions: An Indian Perspective", *SSRN Electronic Journal*, 2007. Available: 10.2139/ssrn.1615304.
- Yaisawarng S., & Ng, Y., "The impact of higher education reform on research performance of Chinese universities", *China Economic Review*, vol. 31, pp. 94-105, 2014. Available: 10.1016/j.chieco.2014.08.006.
- Yeravdekar, V., & Tiwari, G., "Global Rankings of Higher Education Institutions and India's Effective Non-presence: Why Have World-class Universities Eluded the Indian Higher Education System? And, How Worthwhile is the Indian Government's Captivation to Launch World Class Universities?", *Procedia - Social and Behavioral Sciences*, vol. 157, pp. 63-83, 2014. Available: 10.1016/j.sbspro.2014.11.010.
- Maurya, A., & Ahmed, A. (2020). THE NEW EDUCATION POLICY 2020: ADDRESSING THE CHALLENGES OF EDUCATION IN MODERN INDIA. *INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH*, 9(12 (5)), 31–38. [https://doi.org/http://s3-ap-southeast-1.amazonaws.com/ijmer/pdf/volume9/volume9-issue12\(5\)/4.pdf](https://doi.org/http://s3-ap-southeast-1.amazonaws.com/ijmer/pdf/volume9/volume9-issue12(5)/4.pdf)

APPENDIX

NAME	ACA. FACULTY			STUDENTS			INT. STUDENTS		
	TOTAL	INTERNAT IONAL	DOMESTI C	TOTAL	UG	PG	TOTAL	UG	PG
Massachusetts Institute of Technology, USA	3011	1681	1330	11342	40%	60%	3745	17%	83%
Stanford University, USA	4478	2166	2312	16260	44%	56%	3665		
Harvard University, USA	4556	1466	3090	23583	30%	70%	5816	15%	85%
California Institute of Technology, USA	1059	563	496	2237	42%	58%	692	11%	89%
University of Oxford, UK	6650	3137	3513	20786	57%	13%	8259	31%	69%
National University of Singapore, Singapore	4611	3123	1488	29080	82%	18%	7273	48%	52%
Nanyang Technological University, Singapore	3846	2664	1182	23951	83%	17%	5738	49%	51%
Tsinghua University, China	6167	1312	4855	37294	40%	60%	5420	44%	56%
Peking University, China	5252	1363	3889	38854	44%	56%	6120	55%	45%
The University of Tokyo, Japan	4479	295	4184	27559	51%	49%	3725	12%	88%
Indian Institute of Technology, Bombay	974	25	949	10401	44%	56%	99	13%	87%
Indian Institute of Science, Bangalore	434	2	432	4050	12%	88%	37	11%	89%
Indian Institute of Technology, Delhi	778	10	768	8058	46%	54%	62	2%	98%
Indian Institute of Technology, Madras	878	12	866	9911	38%	62%	81	66%	34%
Indian Institute of Technology, Kharagpur	841	2	839	10928	47%	53%	19	47%	53%