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# **An Analysis on Contributions of Indian Medical Universities/Institutions Ranked by National Institutional Ranking Framework (NIRF) in ResearchGate(RG)**

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## ***Abstract***

*This paper examines the contributions of various academic works by medical Institutions/Universities ranked by National Institutional Ranking Frameworks(NIRF) in the ResearchGate(RG).The study has considered the top ten NIRF Ranking Medical Universities/Institutions. The relevant data were extracted from the websites of NIRF (<https://www.nirfindia.org/Home>) and ResearchGate (<https://www.researchgate.net/>). The study has mainly focused on ResearchGate (RG) Score, Memberships and Publications of top NIRF Ranking Universities/Institutions. The results show that the All India Institute of Medical Sciences contributions are found high (RG Score: 25775.82, Membership: 1970 and Publications: 15410) and Jawaharlal Institute of Post Graduate Medical Education & Research are found less (RG Score: 5033.65, Membership: 816 and Publications: 1829) in the ResearchGate. The study also recommended that all the Medical Universities/Institutions should be encouraged to contribute their academic activities in ResearchGate.*

**Keywords: NIRF, NIRF Ranking, ResearchGate, RG Score, Medical Universities, Memberships and Publications.**

## **1. INTRODUCTION**

Academic Social Networking Sites (ASNSs) offer new ways to communicate, collaborate and gather knowledge. ASNSs bring researchers and researches at one place. Flexibility in exchange of ideas and open discussions lead to free flow of information (Asmi, N. A., & Madhusudhan, M., 2015).University Ranking” is an invention of US. The first invention was undertaken in the beginning of the 20<sup>th</sup> century. The first published in the USA was by US News and World Report in 1983. In Higher Education System, the use of rankings makes a lot discussion about the benefits and the cost of their use (Marginson and Van der Wende , 2007).

The National Institutional Ranking Framework (NIRF) was approved by the MHRD and launched by Honorable Minister of Human Resource Development on 29th September

2015. This framework outlines a methodology to rank institutions across the country. The methodology draws from the overall recommendations broad understanding arrived at by a Core Committee set up by MHRD, to identify the broad parameters for ranking various universities and institutions. The parameters broadly cover “Teaching, Learning and Resources,” “Research and Professional Practices,” “Graduation Outcomes,” “Outreach and Inclusivity,” and “Perception”.

ResearchGate(RG) is a networking system, which connects the researchers and scientists to share information. It enables the members to upload, share, and recommend the content among the members. It also provides the references cited in the articles for easy access. The members of the ResearchGate(RG) can interact with other members by means of posting the questions and answers to the questions posted by other members. It also enables to generate statistical reports for the publications, citations, Reads etc of the individual members. It is also possible for the members to recommend the content to the other members.

ResearchGate(RG) was founded in 2008 by Physicians Ijad Madisch and Sören Hofmayer, and Computer Scientist Horst Fickenscher. The ResearchGate has more than 16+ million members. RG’s mission is to help scientists connect with each other, share knowledge and expertise, while at the same time building up scientific reputation. This is accomplished by “following” other scientists who can also follow you back, uploading and sharing manuscripts, presentations, and project related materials, and asking and answering research related questions. Users’ scientific reputation is also represented quantitatively via one’s publications, questions and answers, and followers; this forms a number that is displayed publicly on the RG profile – the “RG Score”. Additionally, altmetrics including number of document views and downloads are publicly displayed. ResearchGate offers the following benefits to the members.

- Sharing publications
- Connecting with colleagues
- Seeking new collaborations
- Obtaining statistics and metrics on use of uploaded publications
- Asking questions of researchers around the world that have the same set of interests
- Job seeking or recruitment
- Creating profiles
- Liking and following researchers and their publications
- Endorsing the skills of others
- Ability to bookmark favourites
- Ability to comment or send feedback
- Ability to share news items and updates easily and quickly

## **2. REVIEW OF LITERATURE**

Sivakumaren and Rajkumar (2019) studied the publications of Indian Universities in National Institutional Ranking FrameWork (NIRF) System. It is found in the study that the top 10 Universities were contributed more number of publications in Scopus(53.86%) database, followed by WoS (41.13%) and ICI(5%). The University of Delhi has received more number of citations (50434) for the publications of (8131), whereas, IISC has produced more publications (12623) and citations (63632). The Citation Rate is also high for the University of Delhi than other Universities. The study has also recommended to incorporate additional parameters such h-index of Universities, Departments and Contributors in

assessing Universities for awarding Ranks. Sivakumaren, Sophia and Sheeba Rani (2018) compared the Indian Academic institutions in top NIRF ranking 2018. It is found that 49623 and 55640 publications of engineering institutions were published in Web of Science and Scopus databases respectively. Sivakumaren (2017) found that the IIM has published 20.55% publications in Web of Science, 65.50% in Scopus and 13.95% in Indian Citation Index databases. It is also recommended to adopt a new parameter “h-index” to assess the contributions of institutions, authors and departments. Nicole Muscanell, Sonja Utz, (2017) examined the usage and utility of ResearchGate (RG), which is a social networking site where scientists disseminate their work and build their reputations. It is found that most academics who have an RG account did not use it very heavily. Users did not perceive many benefits from using the site, and RG use was not related to career satisfaction or informational benefits, but was related to productivity and stress. Ortega (2015), Thelwall and Kousha (2014) described that there are increasingly more studies on RG and other networks for academics, but many of them take a bibliometric approach. A number of these studies demonstrate differences by discipline and country. Disciplines such as arts and humanities are under represented on RG, whereas biologists are over represented. RG is also more heavily used in Brazil and India than in China and South Korea (Thelwall and Kousha, 2015a). Several researchers have correlated the RG score, the number of citations, views, and downloads on RG with other conventional metrics and altmetrics (Hoffmann et al., 2016; Thelwall and Kousha, 2015a, b 2017, Yuet et al., 2016). Some research has focused more on the network characteristics, i.e., network centrality on RG (Kadriu, 2013). These studies are largely based on objective metrics, i.e., statistics that can be scraped from user profiles, but less is known about the subjective evaluation of RG and the motivations for using it. That is, what do users think about RG? Do they find it useful or not? There is much less information on how the specific features of RG are used. One study examined professional usage of multiple social networking site (SNS) of more than 3,000 scientists and engineers Noorden (Van, 2014) and found that most respondents were aware of RG, but less than half used the site. The most common reason for using it was being visible for contact. Extending on these findings, we wanted to examine the use of specific RG features, subjective interpretations and perceptions about the utility and value of RG, and the potential consequences (stress, productivity, career satisfaction, and informational benefits)—we are not aware of any research that has examined this latter question. Hazelkorn (2011) says that “Rankings are creating a social norm against which all institutions are measured”. While higher education has always been competitive, ‘rankings make perceptions of prestige and quality explicit’.

### **3. OBJECTIVES OF THE STUDY**

1. To identify the ResearchGate Score (RGS) of Medical Universities/Institutions listed in NIRF.
2. To find out the memberships of Medical Universities/Institutions in ResearchGate (RG).
3. To analysis the Publications of Top Ten Medical Universities/Institutions ranked by NIRF in ResearchGate (RG).

### **4. RESEARCH METHODOLOGY**

The data for the study have been extracted from the websites of NIRF (<https://www.nirfindia.org/Home>) and ResearchGate (<https://www.researchgate.net/>) during April 2019. The study considered only top ten NIRF ranked Medical Universities/Institutions. Further, the data was analyzed to find out the RG Score, Membership and Publications of

Medical Universities/Institutions in ResearchGate. The collected data were analyzed using MS Excel; simple calculations with percentage and ranking method were also used.

## 5. DATA ANALYSIS

### 5.1. Medical Universities/Institutions Ranked by NIRF

National Institutional Ranking Framework (NIRF) is an organisation approved the Govt.of India. The main objective of the organisation is to assess the higher educational institutions in India and provide ranks to the institutions based on variety of parameters. In this context, the study has considered the Medical Institutions ranked by NIRF during April 2019 and the same is given in Table 1.

**Table 1**  
**Medical Universities/Institutions Ranked by NIRF**

S. No.	University/Institutions	State	NIRF Score	Rank
1	All India Institute of Medical Sciences	Delhi	87.52	1
2	Post Graduate Institute of Medical Education and Research	Chandigarh	77.88	2
3	Christian Medical College	Tamil Nadu	70.32	3
4	Sanjay Gandhi Postgraduate Institute of Medical Sciences	Uttar Pradesh	64.16	4
5	Amrita Vishwa Vidyapeetham	Tamil Nadu	62.84	5
6	Banaras Hindu University	Uttar Pradesh	61.66	6
7	Kasturba Medical College	Karnataka	61.4	7
8	Jawaharlal Institute of Post Graduate Medical Education & Research	Pondicherry	61.38	8
9	Institute of Liver and Biliary Sciences	Delhi	59.8	9
10	King George`s Medical University	Uttar Pradesh	58.53	10
11	Sri Ramachandra Institute of Higher Education and Research	Tamil Nadu	58.45	11
12	St. John's Medical College	Karnataka	56.68	12
13	Aligarh Muslim University	Uttar Pradesh	55.79	13
14	Maulana Azad Medical College	Delhi	54.01	14
15	Jamia Hamdard	Delhi	51.7	15
16	Kasturba Medical College	Karnataka	51.23	16
17	JSS Medical College	Karnataka	50.58	17
18	Christian Medical College	Punjab	50.43	18
19	Vardhman Mahavir Medical College & Safdarjung Hospital	Delhi	50.19	19
20	Dr. D. Y. Patil Vidyapeeth	Maharashtra	49.81	20
21	Siksha `O` Anusandhan	Odisha	49.57	21
22	SRM Institute of Science and Technology	Tamil Nadu	49.14	22
23	University College of Medical Sciences	Delhi	48.69	23

24	Dayanand Medical College	Punjab	48	24
25	Saveetha Institute of Medical and Technical Sciences	Tamil Nadu	47.41	25
26	Annamalai University	Tamil Nadu	46.63	26
27	M. S. Ramaiah Medical College	Karnataka	46.61	27
28	Regional Institute of Medical Sciences	Manipur	46.6	28
29	Sri Venkateswara Institute of Medical Sciences	Andhra Pradesh	46.38	29
30	Kalinga Institute of Industrial Technology	Odisha	46.3	30

Table 1 shows that the “All India Institute of Medical Sciences” has obtained highest NIRF Score (87.52%) for its academic performance and ranked first, “Post Graduate Institute of Medical Education and Research” has obtained second highest NIRF Score (77.88%). It is followed by “Christian Medical College” (70.32%), “Sanjay Gandhi Postgraduate Institute of Medical Sciences” (64.16%), “Amrita Vishwa Vidyapeetham” (62.84%) and placed in third, fourth and fifth rank respectively. Further, it is observed that “Kalinga Institute of Industrial Technology” has got the least RG Score(46.3%) and placed in the last rank(thirtieth). It is inferred that there is a vast difference in the NIRF Score among the institutions.

## 5.2. ResearchGate (RG) Score

The ResearchGate (RG) Score is awarded for various contributions such as publications, questions, answers and followers made by the members/Institutions. It is most useful credentials for the members. The study has analyzed the ResearchGate (RG) score of Top Ten Medical Universities/Institutions in the ResearchGate and the same is given Table 2.

**Table 2**  
**ResearchGate (RG) Score**

S. No.	University/Institutions	State	RG Score	%	Rank
1	All India Institute of Medical Sciences	Delhi	25775.82	16.53	1
2	Banaras Hindu University	Uttar Pradesh	21083.19	13.52	2
3	Post Graduate Institute of Medical Education and Research	Chandigarh	15995.13	10.26	3
4	Aligarh Muslim University	Uttar Pradesh	14873.03	9.54	4
5	SRM Institute of Science and Technology	Tamil Nadu	11777.79	7.55	5
6	Christian Medical College	Tamil Nadu	9582.04	6.14	6
7	Sanjay Gandhi Postgraduate Institute of Medical Sciences	Uttar Pradesh	7007.09	4.49	7
8	Annamalai University	Tamil Nadu	6887.48	4.42	8
9	King George`s Medical University	Uttar Pradesh	6769.01	4.34	9
10	Amrita Vishwa Vidyapeetham	Tamil Nadu	5651.93	3.62	10
			<b>1,25,402.51</b>	<b>80.41</b>	

It is found from Table 2 that “All India Institute of Medical Sciences” has obtained highest RG Score (25775.82, 16.53%) for its academic contributions in the ResearchGate

and placed in the first rank among the top ten Universities/Institutions. “Banaras Hindu University” has obtained second highest RG Score (21083.19, 13.52%) for its Publications, Answers, Questions and Answers. It is followed by “Post Graduate Institute of Medical Education and Research” (15995.13, 10.26%), “Aligarh Muslim University” (14873.03, 9.54%), “SRM Institute of Science and Technology” (11,777.79, 7.55%) and “Christian Medical College” (9582.04, 6.14%). The RG Score of remaining Medical Universities ranges from (5,651.93, 3.62%) to (7007.09, 4.49%) are found less compare to other Universities/Institutions. The Universities/Institutions may actively participate in various activities in order to increase the RG Score. The RG score of the members and institutions will add academic credits.

### 5.3 Memberships

The membership is another important factor to increase the RG score. The RG score is being calculated considering the membership of the institutions. In this study also, the memberships of the Top Ten Medical Universities/Intuitions were taken into consideration and the same is shown in Table 3.

**Table 3**  
**Memberships**

S. No.	University/Institutions	State	No. of Memberships	%	Rank
1	SRM Institute of Science and Technology	Tamil Nadu	8762	26.82	1
2	Banaras Hindu University	Uttar Pradesh	3379	10.34	2
3	Aligarh Muslim University	Uttar Pradesh	3132	9.59	3
4	Kalinga Institute of Industrial Technology	Odisha	2765	8.46	4
5	Amrita Vishwa Vidyapeetham	Tamil Nadu	2713	8.31	5
6	All India Institute of Medical Sciences	Delhi	1970	6.03	6
7	Annamalai University	Tamil Nadu	1339	4.10	7
8	Christian Medical College	Tamil Nadu	1287	3.94	8
9	Post Graduate Institute of Medical Education and Research	Chandigarh	1106	3.39	9
10	Jawaharlal Institute of Post Graduate Medical Education & Research	Pondicherry	816	2.50	10

From Table 3, it is observed that “SRM Institute of Science and Technology” has highest memberships (8762, 26.82%) in the ResearchGate and ranked in the first place, which is followed by “Banaras Hindu University” (3379, 10.34%), “Aligarh Muslim University” (3132, 9.59%), “Kalinga Institute of Industrial Technology” (2765, 8.46%) and “Amrita Vishwa Vidyapeetham” (2713, 8.31%). Further, it is found that the memberships of remaining Medical Universities were found less than 7% in the ResearchGate. The result shows that the RG score of some of the institutions are found less, whereas its memberships are found high. In that case, the institutions which have high number of memberships shall be

encouraged their members to publish/contribute more number of works to increase scores in ResearchGate.

## 5.4 Publications

The Publication is one of the most important requisite for institutions and academicians. The ranking and accreditation bodies are considering “publication” as one of the parameters to assess the educational institutions. Likewise, NIRF is also ranking the institutions by giving importance for its publications and included as one of the parameters. ResearchGate is also providing marks (50%) for contributing publications. The study is analysed the publications of Top Ten Medical Institutions/Universities as given in Table 4.

**Table 4**  
**Publications**

S. No.	University/Institutions	State	Publications	%	Rank
1	All India Institute of Medical Sciences	Delhi	15410	23.96	1
2	Banaras Hindu University	Uttar Pradesh	11544	17.95	2
3	Post Graduate Institute of Medical Education and Research	Chandigarh	8630	13.42	3
4	Aligarh Muslim University	Uttar Pradesh	5099	7.93	4
5	Sanjay Gandhi Postgraduate Institute of Medical Sciences	Uttar Pradesh	4010	6.24	5
6	Christian Medical College	Tamil Nadu	3438	5.35	6
7	Annamalai University	Tamil Nadu	3353	5.21	7
8	Maulana Azad Medical College	Delhi	2560	3.98	8
9	King George`s Medical University	Uttar Pradesh	1921	2.99	9
10	Jawaharlal Institute of Post Graduate Medical Education & Research	Pondicherry	1829	2.84	10

It is found from Table 4 that the “All India Institute of Medical Sciences” has contributed highest number of publications (15410, 23.96%) in the ResearchGate and placed in the first rank, “Banaras Hindu University” has also contributed second highest publications (11544, 17.95%), which is followed by “Post Graduate Institute of Medical Education and Research” (8630, 13.42%), “Aligarh Muslim University” (5099, 7.93%) and “Sanjay Gandhi Postgraduate Institute of Medical Sciences” (4010, 6.24%). Further, it is observed that last two Medical Universities such as “King George`s Medical University” and “Jawaharlal Institute of Post Graduate Medical Education & Research” have contributed less than 2000 Publications in the ResearchGate and placed in the ninth and tenth rank respectively .The results show that there is a vast gap in the contribution of publications between these Universities/Institutions.



## 6. CONCLUSION

ResearchGate is one of the highly useful networking sites to share the information among the peer groups. It facilitates to deposit 18 types of resources in the ResearchGate. The authors/researchers can upload their content. The content is uploaded in the ResearchGate, it will be visible for the members. Since, the content is accessed at global level; the citations for the publications will also be increased. In this aspect, the study has focussed to analysis the contributions made by the Medical Universities/Institutions ranked by NIRF in the ResearchGate. Based on the results, the following are recommended

1. There is a vast gap in the RG score of the Universities/Institutions. In order to increase the scores, the Universities/Institutions are required to involve in the various contributions like Publications, Answers, Questions and Followers.
2. Some of the Universities/Institutions have contributed less number of publications in the ResearchGate. In that case, the management of the institutions shall encourage the researchers and the faculty members to become member and also to contribute the content in ResearchGate.
3. Some of the Universities/Institutions have less number of members in the ResearchGate, it is an essential to increase its memberships. Therefore, the RG score will increase automatically.
4. The publishers shall permit the authors to share their publications in the open access domain after some years. So that, the citations for the publications as well as journals will be increased.

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