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5-20-2019

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Balasubramani, Jeyapragash and Thangavel, Rajkumar, "Research Contributions and Utilization of ResearchGate by Central Universities in India: An Analytical Study" (2019). *Library Philosophy and Practice (e-journal)*. 2985.
<https://digitalcommons.unl.edu/libphilprac/2985>

Research Contributions and Utilization of ResearchGate by Central Universities in India: An Analytical Study

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Abstract

This paper examines the research contributions and utilization of ResearchGate by Central Universities in India. The study considered only Central Universities in India which are listed in UGC website. A total of 49 Central Universities available in India only 45 universities are contributed their research activities in ResearchGate. Further the data was analyzed by ResearchGate (RG) scores, memberships, publications, research contribution wise top ten universities and top ten members in ResearchGate by central universities in India. It is found that the University of Delhi has highest (21338.47) RG score, 3868 members with 8906 publications and Banaras Hindu University” has 20220.29 RG Score, 3214 members with highest number of (11544) publications in ResearchGate. It is suggested that the other central universities should come forward to contribute their research activities through ResearchGate for getting more institutional visibility in word wide.

Keywords: ResearchGate, RG Score, Research Contributions and Central Universities

1. Introduction

Academic Social Networks are emerged based on the thirst of Research Scholars to share their research activities among their peers. The recent Academic Social Networks such as Academia.edu and Researchgate.net are allows researchers to communicate, share, collaborate, and follow or being followed and attracting millions of researchers providing better channels for scholarly communication. It is crystal clear that these research tools as a whole can energize their research and deliver them to the required usages. Many countries are using these research tools in their Institutes in order to improve the productivity of the research.

1.1. ResearchGate

ResearchGate is the largest professional network for researchers and it enables researchers to connect with colleagues, build their scientific network and collaborate with one another using numerous applications that are unique to the scientific platform. It was founded in 2008 by physicians Dr. Ijad Madisch and Dr. Sören Hofmayer, and computer scientist Horst Fickenscher in 2008. ResearchGate today has more than 15 million members and around 100 million publications for browse and 3 million answers to research questions. ResearchGate is an effective tool for academic communication and most user-friendly. ResearchGate gives heavier focus on collaboration, discovery and interaction.

2. Review of Literature

Jeyapragash, B., Rajkumar, T and Muthuraj, A. (2018)¹ examined the research contributions of State Universities in India. The data for the study have been extracted from the website of ResearchGate.net (www.researchgate.net) for this study during August 2017. It was found that 281 State Universities have been contributed the research contributions made by ResearchGate. Further the data were analyzed to find out the ResearchGate RGScores, Members and Publications of State Universities in India by State wise, Members, Publications, ResearchGate (RG) Scores, Top Ten departments along with their members and various types of documents by top ten departments with publications and authors of State Universities in India. It is found that Tamilnadu state has more number of 11220members with 20374 publications and very less research contributions of Tripura state has 10 members with 7 publications of State Universities in ResearchGate. **Kim, Y. (2018)²** investigated how attitudinal, normative and control beliefs influence scientists' article sharing through ResearchGate. A survey method was employed to examine a research model of scientists' article sharing through ResearchGate. A total of 264 survey responses from biological scientists in the USA were used to evaluate the research model by using partial least square based structural equation modelling. The results showed that scientists' attitudinal beliefs (i.e. perceived relationship, reputation and risk), normative beliefs (i.e. subjective norm, perceived academic culture and community norm of article sharing) and control belief (i.e. perceived ease of use) all significantly affect their attitudes toward article sharing and article sharing intentions through ResearchGate. This study suggested that academic libraries can better promote their scientists' article sharing through digital platforms such as institutional repositories as well as scholarly social media. This can be achieved by emphasizing its benefits, including potential relationships or collaborations, positive academic reputation and community norms of article sharing, and by decreasing scientists' concerns about copyright

infringements and effort expectancy involved in article sharing. As one of the initial studies in scientists' article sharing through ResearchGate, this study provides a holistic picture of how attitudinal, normative and control beliefs all affect scientists' article sharing through ResearchGate. **Lepori, B., Thelwall, M., & Hoorani, B. H. (2018)**³ assessed the presence in ResearchGate of higher education institutions in Europe and the US in 2017, and the extent to which institutional ResearchGate Scores reflect institutional academic impact. Most of the 2,258 European and 4,355 US higher educational institutions included in the sample had an institutional ResearchGate profile, with near universal coverage for PhD-awarding institutions found in the Web of Science (WoS). For non-PhD awarding institutions that did not publish, size (number of staff members) was most associated with presence in ResearchGate. It forward that PhD-awarding institutions in WoS, presence in RG was strongly related to the number of WoS publications institutional RG scores reflect research volume more than visibility and research indicator is highly correlated to the number of WoS publications. **Li, L., He, D., Zhang, C., Geng, L., & Zhang, K. (2018)**⁴ discussed the utilization of question and answer sites. Using 1,021 answers collected over three disciplines (library and information services, history of art, and astrophysics) in ResearchGate, statistical analysis is performed to identify the characteristics of high-quality academic answers, and comparisons were made across the three disciplines. In particular, two major categories of characteristics of the answer provider and answer content were extracted and examined. The results revealed that high-quality answers on academic social Q&A sites tend to possess two characteristics: first, they are provided by scholars with higher academic reputations (e.g. more followers, etc.), and second, they provide objective information (e.g. longer answer with fewer subjective opinions). However, the impact of these factors varies across disciplines, e.g., objectivity is more favourable in physics than in other disciplines. The study is envisioned to help academic Q&A sites to select and recommend high quality answers across different disciplines. **Manca, S. (2018)**⁵ analysed 39 empirical studies published in peer-reviewed journals with a specific focus on ResearchGate and Academia.edu. The aim is to describe the status of the research and to identify gaps and priorities in the areas of scholarly networked learning and shared knowledge. Results showed that the number of studies focusing on ResearchGate was more than double those dedicated to Academia.edu.

3. Objectives of the Study

The following are the major objectives of this study.

- To find out the ResearchGate (RG) scores, memberships and publications of central universities in India.
- To identify the RG score, memberships and publication wise top ten central universities in ResearchGate.
- To identify the ResearchGate profiles of top ten members by top ten central universities in India.
- To analyse the various types of research contributions by top ten members.

4. Research Methodology

The data were extracted for this study from the ResearchGate website (<http://researchgate.net/>)⁶ during April 2019. A total of 49 Central Universities are available in India only 45 Universities have contributed and utilized the information through ResearchGate. The data were analyzed to find out the ResearchGate (RG) scores, memberships and publications of central universities in India, top ten central universities research contributions, ResearchGate profiles of top ten members and various types of research contributions by top ten members in ResearchGate. The collected data were analyzed using simple calculations with percentage and ranking method were also used.

5. Data Analysis

The data were analyzed using simple calculations with percentage and ranking method

5.1. Research Contributions and Memberships of Central Universities

The study has analyzed the research contributions and memberships of central universities in India and the same is given in Table 1.

Table 1

Research Contributions and Memberships by Central Universities in ResearchGate

S. No.	Name of University	State	RG Score	Members	Publications
1	Rajiv Gandhi University	Arunachal Pradesh	682.11	240	50
2	Assam University	Assam	3202.30	555	526
3	Tezpur University	Assam	5996.56	1492	593
4	University of Hyderabad	Telangana	10166.69	2159	4449
5	Maulana Azad National Urdu University	Telangana	115.28	83	4
6	English and Foreign Languages University	Telangana	130.29	142	28
7	Jamia Millia Islamia	Delhi	8074.46	1707	1246
8	University of Delhi	Delhi	21338.47	3868	8906
9	JawaharLal Nehru University	Delhi	11312.64	2814	3120
10	Indira Gandhi National Open University	Delhi	1196.54	515	93
11	South Asian University	Delhi	1106.19	350	11
12	The Indira Gandhi National Tribal University	MadhyaPradesh	696.12	72	0
13	Dr. Harisingh Gour University	Madhya Pradesh	2226.15	367	650
14	Mahatma Gandhi International Hindi University	Maharashtra	47.31	23	1
15	Mizoram University	Mizoram	1621.31	391	123
16	North Eastern Hill University	Meghalaya	3787.93	673	904
17	Manipur University	Manipur	1197.37	277	346
18	Central Agricultural University	Manipur	982.85	178	29
19	National Sports University	Manipur	0	0	0
20	Nagaland University	Nagaland	374.94	95	45
21	Pondicherry University	Pondicherry	6332.74	1411	1050
22	Sikkim University	Sikkim	671.85	220	14
23	Tripura University	Tripura	1629.06	295	173
24	Aligarh Muslim University	Uttar Pradesh	13900.53	2881	5001
25	Babasaheb Bhimrao Ambedkar University	Uttar Pradesh	3014.21	414	73
26	Banaras Hindu University	Uttar Pradesh	20220.29	3214	11544
27	University of Allahabad	Uttar Pradesh	4296.09	689	2136

28	Rajiv Gandhi National Aviation University	Uttar Pradesh	0	0	0
29	Rani Lakshmi Bai Central Agricultural University	Uttar Pradesh	0	0	0
30	Visva Bharati University	West Bengal	4667.20	608	909
31	Hemwati Nandan Bahuguna Garhwal University	Uttarakhand	1270.46	330	181
32	Central University of Tamil Nadu	Tamil Nadu	1200.61	455	37
33	Indian Maritime University	Tamil Nadu	80.25	33	2
34	Central University of Rajasthan	Rajasthan	2674.06	956	22
35	Central University of Punjab	Punjab	2254.96	342	308
36	Central University of Orissa	Orissa	58.44	18	2
37	Central University of Kerala	Kerala	1408.56	235	4
38	Central University of Karnataka	Karnataka	340.44	120	7
39	Central University of Jharkhand	Jharkhand	938.9	243	4
40	Central University of Kashmir	Jammu & Kashmir	263.16	124	83
41	Central University of Jammu	Jammu & Kashmir	653.05	77	1
42	Central University of Himachal Pradesh	Himachal Pradesh	499.53	103	10
43	Central University of Haryana	Haryana	990.05	159	11
44	Guru Ghasidas Vishwavidyalaya	Chhattisgarh	1594.27	236	112
45	Central University of South Bihar	Bihar	549.9	330	119
46	Nalanda University	Bihar	131.35	134	0
47	Mahatma Gandhi Central Uni.	Bihar	0	0	0
48	Dr. Rajendra Prasad Central Agricultural University	Bihar	522.23	66	95
49	Central University of Gujarat	Gujarat	1050.88	305	10
Total			145205.42	29999	43032

Table 1 shows that the research contributions and memberships of central universities in India. The study covered 49 central universities in India. It is found that the 45 central universities were contributed and also shared the research activities through ResearchGate. The study clearly shows that the “University of Delhi” got good number of (21338.47) RG score, 3868 members with 8906 publications in ResearchGate. It is followed by “Banaras Hindu University” has 20220.29 RG Score, 3214 members with highest number of (11544) publications. It is inferred that the “Mahatma Gandhi Central University”, “Rani Lakshmi Bai Central Agricultural University”, “Rajiv Gandhi National Aviation University” and “National Sports University” has no account in ResearchGate hence it is recommended that the 4 universities to be contributed their research actives in ResearchGate.

5.2. ResearchGate (RG) Score of Top Ten Central Universities

The study was also analyzed the ResearchGate (RG) score wise top ten central universities in India and the same is given in Table 2.

Table 2

ResearchGate (RG) Score wise Top Ten Central Universities in India

S. No.	Name of University	State	RG Score	%	Rank
1	University of Delhi	Delhi	21338.47	14.70	1
2	Banaras Hindu University	Uttar Pradesh	20220.29	13.93	2
3	Aligarh Muslim University	Uttar Pradesh	13900.53	9.57	3
4	Jawaharlal Nehru University	Delhi	11312.64	7.79	4
5	University of Hyderabad	Telangana	10166.69	7.00	5
6	Jamia Millia Islamia	Delhi	8074.46	5.56	6
7	Pondicherry University	Pondicherry	6332.74	4.36	7
8	Tezpur University	Assam	5996.56	4.13	8
9	Visva Bharati University	West Bengal	4667.20	3.21	9
10	University of Allahabad	Uttar Pradesh	4296.09	2.96	10
Total			145205.42	100	

Table 2 indicates that the ResearchGate (RG) score wise top ten central universities in India. It clearly shows that the “University of Delhi” has highest score of 21338.47 (14.70%) RG score and placed in first rank. It is followed by “Banaras Hindu University, Uttar Pradesh” has 20220.29 (13.93%), “Aligarh Muslim University, Uttar Pradesh” 13900.53 (9.57%) and “Jawaharlal Nehru University, Delhi” 11312.64 (7.79%) RG scores occupied second, third and fourth rank. It is inferred that only four central universities has more than 9% RG scores in ResearchGate.

5.3. Memberships of Top Ten Central Universities

The study analyzed the membership wise top ten central universities in India the same is given in Table 3.

Table 3

Memberships wise Top Ten Central Universities

S. No.	Name of University	State	Members	%	Rank
1	University of Delhi	Delhi	3868	12.89	1
2	Banaras Hindu University	Uttar Pradesh	3214	10.71	2
3	Aligarh Muslim University	Uttar Pradesh	2881	9.60	3
4	Jawaharlal Nehru University	Delhi	2814	9.38	4
5	University of Hyderabad	Telangana	2159	7.20	5
6	Jamia Millia Islamia	Delhi	1707	5.69	6
7	Tezpur University	Assam	1492	4.97	7
8	Pondicherry University	Pondicherry	1411	4.70	8
9	Central University of Rajasthan	Rajasthan	956	3.19	9
10	University of Allahabad	Uttar Pradesh	689	2.30	10
Total			29999	100	

Table 3 explains that the memberships wise top ten central universities in India. It shows that the “University of Delhi” has good number of 3868 (12.89%) memberships in ResearchGate and placed in first rank. It is followed by “Banaras Hindu University, Uttar Pradesh” has 3214 (10.71%) memberships and occupied second rank. It is found that the “Aligarh Muslim University, Uttar Pradesh” has 2881 (9.60%), “Jawaharlal Nehru University, Delhi” 2814 (9.38%) and “University of Hyderabad, Telangana” has 2159 (7.20%) memberships in ResearchGate and placed in third, fourth and fifth ranks. It is inferred that the “Central University of Rajasthan” and “University of Allahabad, Uttar Pradesh” universities has less than 1000 memberships in ResearchGate. Hence it is recommended that the other universities should come forward to register their memberships in ResearchGate respectively.

5.4. Publications of Top Ten Central Universities

The study also investigated the publications wise top ten universities and the same is given in Table 4.

Table 4

Publications wise Top Ten Central Universities

S. No.	Name of University	State	Publications	%	Rank
1	Banaras Hindu University	Uttar Pradesh	11544	26.83	1
2	University of Delhi	Delhi	8906	20.70	2
3	Aligarh Muslim University	Uttar Pradesh	5001	11.62	3
4	University of Hyderabad	Telangana	4449	10.34	4
5	Jawaharlal Nehru University	Delhi	3120	7.25	5
6	University of Allahabad	Uttar Pradesh	2136	4.96	6
7	Jamia Millia Islamia	Delhi	1246	2.90	7
8	Pondicherry University	Pondicherry	1050	2.44	8
9	Visva Bharati University	West Bengal	909	2.11	9
10	North Eastern Hill University	Meghalaya	904	2.10	10
Total			43032	100	

Table 4 shows that the “Banaras Hindu University, Uttar Pradesh” has highest number of 11544 (26.83%) publications in ResearchGate and placed in first rank. It is followed by “University of Delhi” has 8906 (20.70%) and “Aligarh Muslim University, Uttar Pradesh” 5001 (11.62%) publications and occupied second and third rank. It is found that the “University of Hyderabad, Telangana” has 4449 (10.34%), “Jawaharlal Nehru University, Delhi” 3120 (7.25%), “University of Allahabad, Uttar Pradesh” 2136 (4.96%) publications in ResearchGate and placed in fourth, fifth and sixth ranks. It is inferred that the last four universities has less than 3% and the first six universities were contributed 1500 publications in ResearchGate. This study also recommended that the other universities and departments should come forward to contribute their research publications in ResearchGate respectively.

5.5. ResearchGate Profile of Top Ten Members by Top Ten Central Universities in India

The study analyzed that the ResearchGate Profile of top ten members by top ten central universities in India the same is given in Table 5.

Table 5
ResearchGate Profile in Top Ten Members by Top Ten Central Universities in India

Name	Designation	Department	University	RG Score	Research Interest	Recommendations	Reads	H-Index	Projects	Following	Follower	Question	Answer
K. Sreenivas	Professor	Physics & Astrophysics	University of Delhi	165.11	2908	737	102677	35	4	174	714	5	817
Rakesh Pandey	Professor	Psychology	Banaras Hindu University	50.7	701	327	89834	12	3	67	356	11	192
Irshad Ahmad	Professor	Chemistry	Aligarh Muslim University	48.99	6053	5	11716	46	1	172	127	0	2
Imran Ali	Professor	Chemistry	Jamia Millia Islamia	45.13	8244	151	129004	52	4	1660	917	0	4
Cs Sunandana	Professor	Physics	University of Hyderabad	45.9	696.9	35	13266	17	1	54	161	0	71
Rupesh Chaturvedi	Professor	Biotechnology	JawaharLal Nehru University	44.93	1596	24	10317	34	1	65	228	0	1
S. A. Abbasi	CSIR Emeritus Professor	Pollution Control and Environmental Engineering	Pondicherry University	43.59	4310	118	43518	39	9	47	321	0	3
L D S Yadav	Professor	Chemistry	University of Allahabad	43.14	1724	3	3641	24	0	4	16	0	0
Goutam Brahmachari	Professor	Chemistry	Visva Bharati University	41.25	1517	89	39870	18	8	157	386	6	6
Asit K. Chandra	Professor	Chemistry	North Eastern Hill University	40.95	1719	3	6756	30	0	16	174	0	0

Table 5 shows that the ResearchGate profile in top ten members by top ten central universities in India. It clearly shows that Professor “K. Sreenivas” “Department of Physics & Astrophysics, University of Delhi” has highest score of (165.11) RG score and placed first position in ResearchGate. It is followed by Professor “Rakesh Pandey”, “Department of Psychology, Banaras Hindu University” has (50.7) RG score and occupied second position. It is observed

that the RG scores by the remaining professors are found less and score ranges from 40.95 to 48.99.

Professor “Imran Ali” “Department of Chemistry, Jamia Millia Islamia” has highest number of 52 h-index in ResearchGate than other central universities and placed in first position. It is followed by Professor “Irshad Ahmad” “Department of Chemistry, Aligarh Muslim University” has 46 H-Index in ResearchGate and placed in second position. It is observed that the H-Index by the remaining professors from the central universities are found less and it is H-Index from 17 to 35. The result of the study are clearly indicates that the overall H-Index is very good in ResearchGate. It is recommended that participating professors should be encouraged to contribute their research in ResearchGate.

5.6. Various Types of Research Contributions by Top Ten Members in ResearchGate

The study also analyzed the various types of research contributions by top ten members by top ten central universities in ResearchGate and the same is given in Table 6.

Table 6

Various Types of Research Contributions by the Top Ten Members

[illegible]

It is found from Table 6 various types of research contributions by top ten members in central universities in India. It clearly shows that the Professor “Irshad Ahmad” “Department of Chemistry, Aligarh Muslim University” has highest number of 804 Articles and 41 conference papers with other publications contributed in ResearchGate. It is followed by CSIR Emeritus Professor “S. A. Abbasi”, “Department of Pollution Control and Environmental Engineering University” has 436 Articles, 45 conference papers and Professor “Imran Ali” “Department of Chemistry, Jamia Millia Islamia” has 379 Articles and 43 Chapters with other publications contributed in ResearchGate. It is inferred that the other professor “Rakesh Pandey” and professor “Rupesh Chaturvedi” article contributions is less and the ranges from 72 to 144. It is observed that the remaining eight professor’s contributions are very good in ResearchGate. The gap in respect of contributions among the professors from the central universities of India is also found more.

6. Conclusion

In India higher education system plays the major role in developing the overall education ratio in the nation. The Central Universities takes more roles in sharing the education in par with international institutions. The research contribution is the most dominating part in higher learning institutions. Hence this study analyzed and found that the contributions of central universities research in ResearchGate for the better visibility by the national and international researchers.

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