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Research Contributions of Faculty members in State Universities of Tamil Nadu

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Abstract

This study focuses on faculty member's research productivity in State Universities of Tamil Nadu. The faculty member's details were collected from 8 State Universities such as Alagappa University, Annamalai University, Bharathiar University, Bharathidasan University, Madurai Kamaraj University, Manonmaniam Sundaranar University, Periyar University and University of Madras. The Research productivity data were collected from Web of Science Database. It is found that total 1949 faculty members in different positions are available in State Universities of Tamil Nadu. It is also found that Annamalai University has highest number (654) of faculty members when compared to other universities. It is further analyzed that Annamalai University has published 3375 publications from Web of Science database by the present faculty members. The study also analyses University wise faculty members, Designation wise faculty members, State University publications, h-index, citations and top faculty members of individual institution.

Keywords: Research Publications, Research Productivity, Faculty Publications, Citations and h- index.

1. Introduction

Research publications are most important to any higher education institutions to measure the institution research contributions. The higher learning institutions are evaluated by the National Assessment and Accreditation Council (NAAC) and National Institutional Ranking Framework (NIRF) for the quality of the institutions in terms of Teaching, Learning, Studies and

Research, etc. The research contribution is the most important criteria by the NAAC and NIRF. The Institution research publications when it increases it increase the institutions h-index, department's h-index and individual author's h-index. This contribution will help the institution to get the good ranking and also to get the funding and collaboration in national and international level.

2. Review of Literature

Bhui, T., & Sahu, N. B. (2018)¹ evaluated the citation count of article publications in journals by faculty members in the Humanities and Social Science (HSS) Departments of Indian Institute of Technology (IIT) Kharagpur. The publication data is retrieved from the individual bio-sketch and annual reports available in the websites for 17 year from 2000-2016. Web of Science database has been used for counting the citations. The finding revealed that 623 articles are found in total 359 journals. Collaborative researches by three author received maximum citations. The faculty members are engaged in variant fields of research but the impact is higher at national level than that of international level. Sage is found to be the most preferred publisher publishing journal articles of the faculty members from HSS Departments of IIT, Kharagpur. **Marisha, Banshal, S. K., & Singh, V. K. (2017)**² presented the research performance of 39 central universities in India. The research publication data, indexed in the Web of Science, for the 39 central universities for a 25-year period (1990–2014) were used for analysis. The data were computationally analyzed to identify productivity, productivity per capita, productivity per crore rupees grant, rate of growth of research output, authorship and collaboration pattern, citation impact and discipline-wise research strength of these institutions. Research performance of the central universities is measured and compared with two top-ranking world universities, namely University of Cambridge and Stanford University. It was found that University of Delhi and Banaras Hindu University perform better than newer universities. It is also found that combined research output of all central universities taken together is less than that of either of University of Cambridge or Stanford University alone. **Nagarkar, S and Kengar, M. (2017)**³ analyzed the research contributions by the faculty members of the Department of Physics, Savitribai Phule Pune University (SPPU), Pune, Maharashtra, India for the period 1990-2014. Bibliographic and citation data were retrieved from Scopus database and it found that 1629 publications with 22618 citations for the period. Author keywords in Scopus

database indicated that faculty members are working in core areas of physics as well as interdisciplinary subjects like chemistry, instrumentation sciences, engineering, etc. The year-wise analysis showed that research productivity of faculty members increased over the period. Faculty members published their research in core physics journals among which Journal of Applied Physics (72 papers) is the most preferred journal. The faculty members of the University have collaborated with scientists from USA, UK, Germany and Japan. At the national level, the University physicists have collaborated most with Bhabha Atomic Research Centre. **Arif, T. (2015)⁴** explored 1082 research publications of 111 faculty members working in Computer Science Engineering departments of four top ranked Indian Institutes of Technology were extracted from their websites. Analyzed the extracted publications over a five years period from 2011 to 2015. Study showed that there are huge differences in research productivity in terms number of publications, growth of literature, per capita productivity, etc. in these institutes that were established with the same mandate and are working on same lines. IIT Madras has outperformed than other IITs in all aspects that is highest number of publications, production of joint publications and per capita productivity. **Gopikuttan, A and Aswathy, S. (2014)⁵** evaluated the research productivity of University of Kerala based on the data collected from Web of Science over a period of thirteen years from 2000 to 2012. These study attempted to analyze the overall performance of the faculty members of Science Departments of University of Kerala in research productivity. The study revealed that Chemistry is the subject which produces more number of papers while the multi-authorship also possesses a lead role in this subject. Indian journals are the most preferred journals to publish the articles which are followed by UK. Collaborative Coefficient varies from subject to subject. The result showed that the research productivity of the University of Kerala is much recognized at international level. **Jalil, R. A., Salleh, S. M., Sulaiman, S., Mohamed, Z., & Tasir, Z. (2013)⁶** described the study of research performance based on publication output of Science Technology and Social Science researchers for Research University in Malaysia. Publications output include both those in impact factor publications, namely ISI publications and publications not covered by impact factor publication, namely non-ISI publications are compared. Performances of each researcher (n=1014) from 7 faculties of Science Technology and 6 faculties of Social Science in Universiti Teknologi Malaysia has studied. It also studied their subsequent impact factor publications track as detailed on The Web of Science databases for impact factor journal and monitor the number of non-ISI

publication track as detailed on Scopus and Google Scholar database. The results showed that there is a significant relationship, between research performances based publication output and categories of researchers. **Okpe, I. John, Simisaye, A. O, & Otuza, C. Evans (2013)**⁷ investigated the patterns of research output publications of faculty of Babcock University, Nigeria. Survey design was adopted; the population for the study consists of 154 faculty of Babcock University. Data for the study was collected using questionnaire. Data collected was analyzed using descriptive statistics, frequency counts and simple percentage while the hypotheses were tested using Product Moment Correlation and chi- square. The result showed that there is significant relationship between the status of faculty and pattern of research output publication, there is also significant relationship between the qualification and pattern of research output publication of the faculty.

3. Research Methodology

The study focuses only the present faculty members and the faculty member's data were collected from websites of State Universities of Tamil Nadu. The universities are Alagappa University⁸, Annamalai University⁹, Bharathiar University¹⁰, Bharathidasan University¹¹, Madurai Kamaraj University¹², Manonmaniam Sundaranar University¹³, Periyar University¹⁴, and University of Madras¹⁵. The publication data were taken from Web of Science (www.webofknowledge.com)¹⁶ by Individual University and individual faculty. It is found that 1949 present faculty members are available in state universities of Tamil Nadu. The study also analyses University wise faculty members, Designation wise faculty members, University publications, top department and top faculty members of individual university.

4. Objectives of the Study

These are the major objectives of the study.

- To find out the University wise faculty members of State Universities of Tamil Nadu.
- To analyze the designation wise faculty members of State Universities of Tamil Nadu.
- To identify the Individual University publications of present faculty members in Web of Science database.

- To find out the top department publications and top faculty member's publications of individual University.
- To identify the top faculty member's citations and h-index of individual University.

5. Data Analysis and Interpretation

5.1 University wise Faculty Members

Table.1

University wise Faculty members

S. No	Name of the University	No. of Faculty Members	%	Rank
1	Alagappa University	166	8.51	6
2	Annamalai University	654	33.55	1
3	Bharathiar University	222	11.39	3
4	Bharathidasan University	177	9.08	5
5	Madurai Kamaraj University	189	9.69	4
6	Manonmaniam Sundaranar University	130	6.67	8
7	Periyar University	158	8.1	7
8	University of Madras	253	12.98	2
Total		1949		

Table 1 indicates that University wise present strength of Faculty Members. It is found that Annamalai University has highest (654 and 33.55%) faculty members are presently working in Faculty of Arts, Science, Marines Science, Languages, Education & Fine Arts and placed first position and its followed by University of Madras has 253 (12.98%) faculty members and placed second position. 189 (9.69%) faculty members are currently working in Madurai Kamaraj University and placed fourth position. It is further found that Manonmaniam Sundaranar University has less number of (130 and 6.67%) faculty members and has placed eighth position.

5.2 Designation wise Faculty members

Table.2

Designation wise faculty members

S. No	Name of the University	Professor	Associate Professor	Assistant Professor
1	Alagappa University	60	18	88
2	Annamalai University	74	80	464
3	Bharathiar University	48	34	140
4	Bharathidasan University	65	19	93
5	Madurai Kamaraj University	48	15	127
6	Manonmaniam Sundaranar University	43	11	76
7	Periyar University	33	16	109
8	University of Madras	80	28	145

Table 2 shows that designation wise Faculty Members at State Universities of Tamil Nadu. The “Professor” category has highest (80) faculty members are presently working in University of Madras and less number of (33) faculty members working in Periyar University. The “Associate Professor” category has highest (80) faculty members are currently working in Annamalai University and least number of (11) faculty members are working in Manonmaniam Sundaranar University. The “Assistant Professor” category has highest (464) faculty members are currently working in Annamalai University and less number of (76) faculty members are working in Manonmaniam Sundaranar University.

5.3 University wise Publications of present Faculty Members in Web of Science

Table.3

University wise Publications of present Faculty Members in Web of Science

S. No	Name of the University	Publications in Web of Science	%	Rank
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1	Alagappa University	1939	12.19	5
2	Annamalai University	3375	21.23	1
3	Bharathiar University	2413	15.18	3
4	Bharathidasan University	2671	16.8	2
5	Madurai Kamaraj University	1294	8.14	6
6	Manonmaniam Sundaranar University	618	3.89	8
7	Periyar University	1210	7.61	7
8	University of Madras	2380	14.97	4
Total		15900	100	

Table 3 shows that University wise publications of present faculty members in Web of Science. The Annamalai University has 3375 (21.23%) publications in Web of Science and placed first position is followed by Bharathidasan University has 2671 publications have placed second position. It is further found that Manonmaniam Sundaranar University has 618 publications and placed last position.

5.4 Top Department of Individual University in Web of Science

Table.4

Top Department of Individual University in Web of Science

S. No	Name of the Department and University	No. of Publications	%	Rank
1	Department of Physics (Alagappa University)	486	13.76	4
2	Department of Biochemistry and Biotechnology (Annamalai University)	1018	28.83	1
3	Department of Physics (Bharathiar University)	565	16.00	2
4	Department of Chemistry (Bharathidasan University)	519	14.70	3
5	Department of Natural Products Chemistry (Madurai Kamaraj University)	171	4.84	7
6	Department of Environmental Science (Manonmaniam Sundaranar University)	133	3.77	8
7	Department of Physics (Periyar University)	335	9.49	5
8	Department of Nuclear Physics (University of Madras)	304	8.61	6

Total	3531	100	
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Table 4 indicates that Top Department of Individual University in Web of Science. It is found that Department of Biochemistry and Biotechnology (Annamalai University) has contributed more number of (1018 and 28.83%) publications and it has placed first rank and it's followed by Department of Physics (Bharathiar University) has contributed 565 (16.00%) publications and it has placed second rank. It is further found that Department of Environmental Science (Manonmaniam Sundaranar University) has contributed less number of (133 and 3.77%) publications got placed eighth rank.

5.5 Top faculty members by University wise in Web of Science

Table.5

Top faculty members by University wise in Web of Science

S. No	Name of the Faculty	Name of the Department	Name of the University	Publications in WoS	%	Rank
1	Karutha Pandian, S	Department of Biotechnology	Alagappa University	156	12.1	5
2	Jayabharathi, J	Department of Chemistry	Annamalai University	223	17.3	2
3	Murugan, K	Department of Zoology	Bharathiar University	198	7.21	4
4	Lakshmanan M	Department of Non Linear Dynamics	Bharathidasan University	274	21.26	1
5	Ramakrishnan, V	Department of Laser Studies	Madurai Kamaraj University	149	11.56	6
6	Senthil-Nathan, S	Department of Environmental Science	Manonmaniam Sundaranar University	58	4.5	8
7	Krishnakumar, V	Department of Physics	Periyar University	132	10.24	7
8	Mohanakrishnan, AK	Department of Organic Chemistry	University of Madras	204	15.83	3
Total				1289	100	

Table 5 shows that Top faculty members by university wise in web of science. Lakshmanan, M. (Department of Non Linear Dynamics, Bharathidasan University) has published 274 (21.26%) publications and have placed first rank and it is followed by Jayabharathi, J (Department of Chemistry, Annamalai University) has published 223 (17.30%) publications and have placed second rank. It is further found that Senthil-Nathan, S (Department of Environmental Science, Manonmaniam Sundaranar University) has published less number of (58 and 4.50%) publications and have placed eighth rank respectively.

5.6 Top Faculty member's citation and h-index by University wise

Table.6

Top Faculty member's citations and h-index by University wise

Sl. No	Name of the Faculty	Citations in WoS	%	h-index	Rank
1	Karutha Pandian, S	2781	13.91	28	3
2	Jayabharathi, J	1914	9.58	21	5
3	Murugan, K	3526	17.64	34	2
4	Lakshmanan, M	6036	30.2	41	1
5	Ramakrishnan, V	1895	9.48	27	6
6	Senthil-Nathan, S	548	2.74	14	8
7	Krishnakumar, V	1936	9.69	23	4
8	Mohanakrishnan, AK	1353	6.77	21	7
Total		19989	100		

Table 6 shows that top faculty member's citations and h-index of individual university. Lakshmanan, M. (Bharathidasan University) has received 6036 citations and h-index 41 it is placed first rank and followed by Murugan, K (Bharathiar University) has received 3526 citations, h index 34 and it has placed second rank. It is further found that Senthil-Nathan, S (Manonmaniam Sundaranar University) has received less number of (548) citations and h-index 14 and have placed eighth rank respectively.

6. Conclusion

The Research Contribution is the most important activity in any higher learning institutions. All Accreditation / Ranking Agencies are very keenly looking for the research performance of Institutions in the assessment period. Hence it is required to know the present faculty members and their research contributions towards the institution growth. It is recommended that Periyar University and Manonmaniam Sundaranar University should contribute more research papers by the present faculty members to have a better visibility by the out side world.

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