Indian Research Information Network System (IRINS): Analysis of State Universities in Tamil Nadu

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Abstract

The present study sought to analyze the Indian Research Information Network System (IRINS) instances with particular reference to universities in Tamil Nadu. The study explores the resource impact from scholarly resources, the contributions of top of individual Tamil Nadu universities, the h-index, the top faculty of respective state universities, and the h-index. The study finding shows that Anna Malai University holds the highest faculties, 1141(31.38%).Tamil Nadu Agriculture University has the highest 12736 scholarly publications among the state universities of Tamil Nadu state, with Scopus citation 27944 and Crossref citation 22057. Anna University has the highest h-index 942 among the state universities in Tamil Nadu state.Prof. Muthusamy Lakshmanan from Barathidasan University has the highest 9801 Scopus citations.

Keywords

IRINS; State Universities; INFLIBNET; Tamil Nadu

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1. Introduction

IRINS is web-based Research Information Management (RIM) service developed by the Information and Library Network (INFLIBNET) Centre. The portal facilitates the academic, R&D organizations and faculty members, scientists to collect, curate, and showcase the scholarly communication activities and provide an opportunity to create the scholarly network. The IRINS is available as free software-as-service to the academic and R&D organizations in India. The IRINS would support integrating the existing research management system such as HR system, course management, grant management system, institutional repository, open and commercial citation databases, scholarly publishers, etc. It has integrated with academic identities such as ORCID ID, Scopus, Research ID, Microsoft Academic ID, and Google Scholar ID for ingesting scholarly publications from various sources. The benefit to research scholars, Faculty, and Research Administrators. It provides immense support to find mentors or advisors for their research in the respective domain. It helps the scholars locate courses in their subject interests and research focus of the department and organization. It provides scholarly metadata related to the research interests of faculty members and the research focus of the departments and schools. It supports the faculty members to showcase their research contributions to the peer group. It provides more significant exposure for their research contributions to the international community, brings funding opportunities from national and international agencies, improves the research metadata quality, and reduces repetitive data entry for various assessment systems. It enables the administrator to build research reports, performance assessments, and research impact analysis. Strategically analyses the research progress for better decision-making on funding, faculty assessment, and resource allocation. Help the Internal Quality Assurance Cell (IQSC) and National Institutional Ranking Framework Coordinator to generate a report for various research assessments. The IRINS could be used effectively to efficiently measure and benchmark the academic institutions' research output or the R & D organizations.

2. Review of literature

The literature review is not comprehensive but is instead limited to IRINS analysis in various instances. Tyagi, S. (2021) conducted a study on Indian Research Information Network System (IRINS): Analysis of Academic Institutions in India.

The finding of the study shows that the Banaras Hindu University (BHU) holds the highest numbers of faculties 1022 (15.40%) and has the highest scholarly publications 16376 (20.68%) with Scopus citation 208604 (22.05%) and Crossref citation 175973 (23.26%). The physics department, Banaras Hindu University, has the highest scholarly resources, 2508(17.96%), whereas the department of physics and astrophysics, University of Delhi, has the highest 107 h-index with 1347 scholarly resources.

Jeyapragash, Muthuraj, and Kannan, (2019) conducted a study on An analysis of the Indian Research Information Network System (IRINS).The paper indicated that KL University, Guntur, has the highest 836 (17.22%) faculty member. The Institute of Technology, Madras, has received 278374 (26.28%) highest citations from Scopus and 227686(22.30%) citations from Cross Ref. Kannan, Shankar Kimidi, and Arora (2018) elaborated on using the IRINS system, which can be used as benchmarks for research output. The authors have also heightened the method of using IRINS effectively and efficiently, measuring the research output of individual institutes as well as across institutions.

3. Objectives of the study

The main objective of the present study is to analyze the IRINS implemented by State Universities Tamil Nadu. The primary goals are:

- To analyze the resource impact from scholarly resources;
- To examine the top of the contributions of individual universities and h-index.
- To explore the top faculty of respective state universities and h-index.

4. Research Methodology

The data for this study were collected from the website (https://irins.org/irins/) of the Indian Research Information Network System (IRINS). The present study is confined to 09 state universities in Tamil Nadu. The study considered University wise publications, Citations, h-index, faculty publications ,h-index. The collected data were classified, analyzed, and tabulated by using statistical methods.

5. Data Analysis and Interpretation

The data collected from the website https://irins.org/irins/index.php has been analyzed with simple percentages, average per publication, and ranking based on frequency and average per publication.

5.1. Demographic Representation

The demographic representation of IRINS implemented state universities in India is shown table-1. On analysis, it has been found that Annamalai University holds the highest number of faculties,1141(31.38%),Tamil Nadu Agriculture University with 1004(27.62%) follows, Anna University 509 (14.00%).The Mother Teresa Women's University holds the lowest faculties 53 (1.45%).

Table 1: Demographic representation

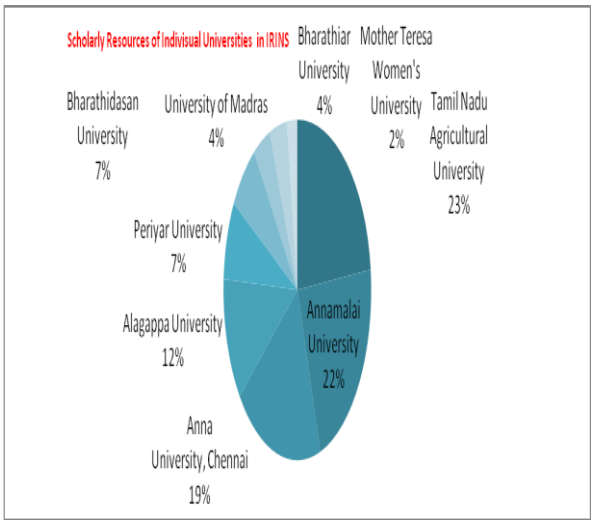
Sl. No.	Name of the University	Demographic representation	%	No. of Department
1	Annamalai University	1141	31.38	53
2	Tamil Nadu Agricultural University	1004	27.62	36
3	Anna University, Chennai	509	14.00	50
4	University of Madras	267	7.34	82
5	Alagappa University	204	5.61	57
6	Bharathidasan University	181	4.97	51
7	Periyar University	162	4.45	29
8	Bharathiar University	114	3.13	44
9	Mother Teresa Women's University	53	1.45	17
	Total	**3635**	**100**	**419**

5.2. Scholarly Resources

IRINS enables the research community to quickly understand and overview the publication category bound to the various open access such as green, gold, and bronze open access. Table-2: indicates the scholarly resources of individual IRINS implemented state universities in Tamil Nadu.Table-2 shows that Tamil Nadu Agricultural University has the highest scholarly publications, 12736(23.09%) among the state universities of Tamil Nadu, followed by Annamalai University 12066(21.87%) at rank second. Mother Teresa Women's University only 1254 (2.27 %) at last rank.

Table 2: Scholarly resources of individual universities in IRINS

Sl. No	Name of the University	Scholarly Resources	(%)	Gold OA	Green OA	Bronze OA
1	Tamil Nadu Agricultural University	12736	23.09	629	86	224
2	Annamalai University	12066	21.87	513	92	175
3	Anna University, Chennai	10638	19.28	556	179	247
4	Alagappa University	6479	11.74	272	97	90
5	Periyar University	4122	7.47	146	61	46
6	Bharathidasan University	3620	6.56	195	269	65
7	University of Madras	2121	3.84	193	45	41
8	Bharathiar University	2114	3.83	45	26	11
9	Mother Teresa Women's University	1254	2.27	24	5	9
	Total	**55150**	**100**	**2573**	**860**	**908**

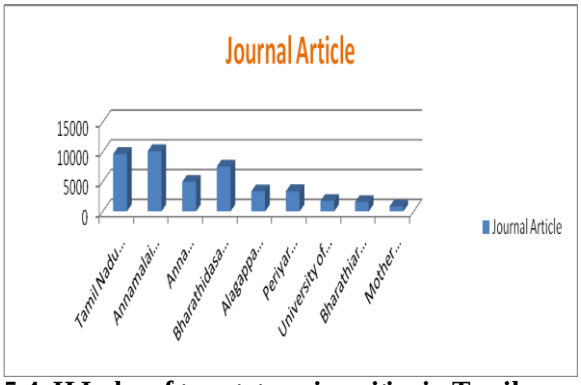


The types of scholarly resources, including journal articles, conference proceedings, books/chapters, or other resources of different IRINS implemented state universities in Tamil Nadu. Table-3 shows Tamil Nadu Agricultural University 12736 scholarly resources with 9635 journal articles, 1293 Conference/Proceedings, 957 Books / Chapters among the state universities in Tamil Nadu, followed by Annamalai University with 12066 scholarly resources including 10117 journal articles, 1020 Conference/Proceedings, 414 Books / Chapters. Mother Teresa Women's University has only 1254 scholarly resources with 819 journal articles, 280 Conferences/Proceedings, 138 Books/Chapters among the state universities in Tamil Nadu.

5.3. Types of scholarly resources

Table 3: Types of scholarly resources

Name of the University	Scholarly Resources	Journal Articles	Conference/In Proceedings	Books / Chapter	Others	Rank
Tamil Nadu Agricultural University	12736	9635	1293	957	851	**1**
Annamalai University	12066	10117	1020	414	515	**2**
Anna University, Chennai	10638	4970	937	194	273	**3**
Bharathidasan University	9522	7532	928	172	320	**4**
Alagappa University	6479	3365	413	272	286	**5**
Periyar University	4122	3380	415	249	78	**6**
University of Madras	2121	1751	153	49	168	**7**
Bharathiar University	2114	1565	225	89	235	**8**
Mother Teresa Women's University	1254	819	280	138	17	**9**
Total	**55150**	**43134**	**5664**	**2534**	**2743**	

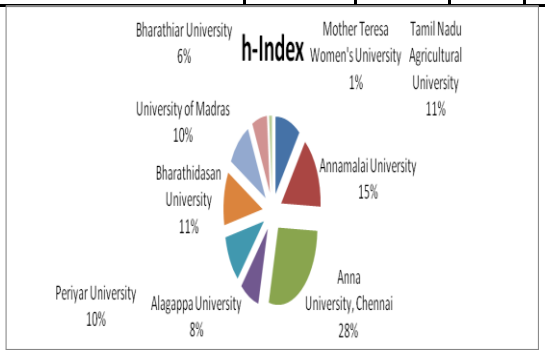


5.4. H-Index of top state universities in Tamil Nadu

The h-index to the contribution of top individual state universities of IRINS implemented in India. The table-4 indicates that Anna University has the highest h- index 942 with 10638 scholarly resources, followed by Annamalai University h- index 512 with 12066 scholarly resources among the state universities in Tamil Nadu. Mother Teresa Women's University has the lowest h- index 40 with 1254 scholarly resources among the state universities in Tamil Nadu

Table 4 : h-Index of top state universities in Tamil Nadu

Top Individual University	Scholarly resource	h-Index	%	Rank
Tamil Nadu Agricultural University	12721	346	10.35	1
Annamalai University	12066	512	15.32	4
Anna University, Chennai	10638	942	28.18	2
Alagappa University	6221	262	7.83	5
Periyar University	4122	333	9.96	8
Bharathidasan University	3620	375	11.22	3
University of Madras	2121	326	9.75	7
Bharathiar University	2114	206	6.16	6
Mother Teresa Women's University	1254	40	1.19	9
Total	**55150**	**3342**	**100**	

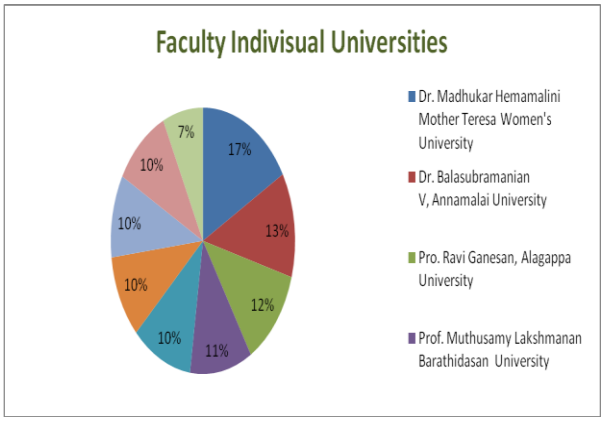


5.5. Contribution of top faculties of individual state universities in Tamil Nadu

IRINS provides greater exposure of their research contributions to the international community and helps to collaborate with the interdisciplinary research activities. The contribution of top individual state universities faculties of IRINS implemented universities in Tamil Nadu. The table-5 indicates that Prof. Madhukar Hemamalini has the highest 527 scholarly resources among the state universities in Tamil Nadu. Prof. Muthusamy Lakshmanan has the highest Scopus citations 9801 and crossref citations 8988 with an h-index of 50 among the state universities in Tamil Nadu. Prof. V Krishnakumar has the lowest two scholarly resources among the state universities in Tamil Nadu, 224. Prof. Madhukar Hemamalini has Scopus 875 and Crossref citations 549among the state universities in Tamil Nadu

Table 5: Top Faculties of Individual State Universities in Tamil Nadu

Top Faculty of Individual University	Scholarly Resources	%	Scopes citations	Cross references citations	h-index	Rank
Dr. Madhukar Hemamalini Mother Teresa Women's University	527	16.67	875	549	14	**1**
Dr. Balasubramanian V, Annamalai University	402	12.87	8893	7887	49	**2**
Pro. Ravi Ganesan, Alagappa University	376	11.89	4072	4105	32	**3**
Prof. Muthusamy Lakshmanan Barathidasan University	346	10.49	9801	8988	50	**4**
Dr. Manivannan N, Tamil Nadu Agricultural University	337	10.66	379	208	9	**5**
Dr Algar Muthukaruppan, Anna university Chennai	319	10.09	4906	4300	35	**6**
Prof. Sakthivel Rathinasamy Bharathiar University	317	10.03	7045	5686	47	**7**
Dr. Raghavachary Raghunathan University of Madras	312	9.87	2896	2242	30	**8**
Prof. V Krishnakumar Periyar University	224	7.08	3607	2834	30	**9**
Total	**3160**	**100**	**42474**	**36799**	**296**	



6. Conclusion

The national or the international level ranking system and the assessment systems have been forcing the academic institutions to implement the research information management systems towards showcase the research contribution to the scholarly communities. The Indian Research Information Network System (IRINS) in India has made a tremendous impact on promoting and bringing more awareness towards the research information management system for the higher education system and its benefits. It has integrated with academic identities such as ORCID ID, Scopus ID, Research ID, Microsoft Academic ID, and Google Scholar ID for ingesting scholarly publications from various sources. The state universities are run by the state government of each of the states and territories of India and are usually established by a local legislative assembly act. As of 6 August 2021, the UGC lists 436 state universities. More than 400 hundred state universities are there in the country. Still, only a few universities have created IRINS instances in Tamil Nadu. Many of them have not developed their IRINS instance. Thus the intervention of the Ministry of Education, Government of India, and the University Grants Commission (UGC) may require full-fledged implementation across all the state universities towards greater visibility to research output and impact in all major subject domains and subject expertise.

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