

Publication Output of Yadanabon University Research Journal (2009–2019): A Bibliometric Analysis

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Abstract

This paper presents publication output of the Yadanabon University Research Journal. The main purpose of this study is to trace out the growth and development of Yadanabon University Research Journal. This study covers the period from 2009 to 2019. The major research publication outputs are from various fields of academic programmes. The method conducted in this paper is bibliometric analysis, comprising content analysis and citation analysis. It shows the remarkable inclusion of the research papers during these periods. It is hoped to be a great help to identify research contributions in academic activities of faculty members of Yadanabon University.

Keywords: Bibliometric analysis, content analysis, citation analysis, Research contributions

1. Introduction

Bibliometrics is a new branch of information science and has now become a standard technique for science. Nowadays, it has become a standard tool of research management. According to Pitchard, the term bibliometrics is the application of mathematical and statistical methods to books and other media of communication.¹ Communication media comprises of books, papers in serials, periodicals, monographs, reports, theses, e-books and e-journals. Regarding the scope of bibliometrics, its scope includes the study of the relationship among documents, such as, citation studies or describing a literature. These descriptions focus on consistent patterns involving authors, monographs, journals, or subject/language.² It is a tool used quantitatively or qualitatively to evaluate the academic quality of an individual researcher, research teams, institutions, countries or journals by computing of statistical methods.³

Bibliometrics is widely used by in the field of Library and information science to study literature growth rate, data utilization, productive contributors, and future needs in a particular discipline. Bibliometric analysis identifies need-based development plan and

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1 Alan Pitchard, "Statistical Bibliography or Bibliometrics?," *Journal of Documentation* 25 (4) (December 1969): 348–9, accessed 10 April, 2020, <https://www.researchgate.net/publication/258023097/Bibliometrics/link/00463526a1754b27c3000000/download>.

2 D.O. O'Connor & H. Voos, "Empirical Laws, Theory Construction, and Bibliometrics," *Library Rrends* 30, (1981): 9–20, accessed 10 April, 2020, <https://journals.sagepub.com/doi/10.1177/009365089016005002>

3 A. Sillet, "[Definition and Use of Bibliometrics in Research]," *Soins ; La Revue de Reference Infirmiere* (781) (2013): 29–30.

well-defined objectives to conduct high-quality research.⁴ It comprises of content analysis and citation analysis. Content analysis of a journal is important to know how many research papers were issued during a specific period of time. It identifies the growth of literature in certain fields. Citation analysis assists to examine how much the research papers were influenced by other researchers for contributing new research. It also provides an idea of which institutions, countries and journals have got high impact on the specific field of subject.⁵

The Yadanabon University Research Journal was published as its first issue in 2009. It focused on the research performance of faculty members in various academic departments of Yadanabon University. It is a journal yearly published. Up to 2019, 11 issues have been published. The fields of subjects cover sciences, social sciences and humanities.

The bibliometric analysis provides to generate the profile of a journals, and to evaluate the impact of publications to a similar extent contributed by researchers. Any kind of research journal can indicate the quality, maturity, productivity and numerical aspects of research published in the journal. This analysis is the ubiquitous instrument for library professionals to disseminate knowledge with low barriers to authorship contribution and publications of the journal.⁶ The measurement of the institutional research outputs helps to identify the faculty members teaching, research activities, institutional ranking and reputation of the institute. The evaluation of publications and citation data are used for measurement of the research outputs, and bibliometric analysis is a powerful tool used in research performance assessment.⁷ The current study has sought to analyze the research potential of Yadanabon University Research Journal by using bibliometric techniques.

In the present study, an effort has been made to analyze all the 358 research papers published in Yadanabon University Research Journal during the period 2009–2019.

1.1 Aim and Objectives of the Study

The main aim of the study is to identify the publication output of Yadanabon University Research Journal. The objectives of the study are:

- i. To find out yearly research paper distribution
- ii. To find out yearly authorship pattern of research papers

4 Vijayakumar Palanivelu, G Sivasubraminiyan, and Manne Saraswati Rao, "Publication Output of Journal 'Veterinary World' (2008–2017): A Bibliographic Analysis," *Library Philosophy and Practice (e-Journal)* 2019 (April 2019):2400, accessed April 2, 2020, <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=5921&context=libphilprac>. (hereafter cited as Palanivelu, Sivasubraminiyan, Rao)

5 Palanivelu, Sivasubraminiyan, Rao.

6. Zameer Hussain Baladi. "Research Productivity of the Journal of Pakistan Medical Association Published during the period 1978–2017," *Library Philosophy and practice (e-journal)* (2019): 2817, accessed December 3, 2019, <https://digitalcommons.unl.edu/libphilprac/2817>.

7 Aye Aye Maw, "Bibliometric Analysis on the Research journal published by Yangon University, Yangon University of Distance Education and Dagon University (Vol.1, no.1–Vol.8, no.1)" (master's thesis, Yadanabon University, 2019), 3.

- iii. To identify subject-wise research paper distribution
- iv. To identify most prolific contributions of research papers
- v. To examine length of research papers
- vi. To examine year-wise distribution of citations⁸

1.2 Scope of the Study

Although there are various research journals published by universities in Myanmar, this study limited and focused on Yadanabon University Research Journal published during the period from 2009 to 2019. It analysed 358 research papers contributed by Faculty members and totally 3620 citations that they cited in their research work were analysed.

1.3 Method of the Study

The research method used for this study was bibliometric analysis. It was used to study in detail the bibliographic features of the research papers and citation analysis of references appended at the end of each paper. The data collected were tabulated and presented in percentage for making observations.⁹

2. Literature Review

There are various research studies focusing on the importance of bibliometric analysis and their application in the field of library and information studies. Several research papers on bibliometric study have been conducted by various researchers all over the world. The researchers can identify the research fields previously conducted through this kind of research.¹⁰ Among them, some research papers are described as follow:

Rajev and Joseph investigated a bibliographic analysis on Malaysia Journal of Library and Information Sciences during the period 2007–2013. This study examined the research contributions published in the journal. It was found that the year 2011 was the most productive year with 21 research articles out of a total 142 articles. Regarding the length of research articles, most of the articles had 11–20 pages.¹¹

S. Bansal conducted bibliographic analysis on the veterinary clinics of North America during the period 2007 to 2011. This study analysed year-wise distribution of research articles, length of the articles, year-wise citation distribution and authorship patterns, etc.¹²

8 Palanivelu, Sivasubraminiyan, Rao.

9 Sanda Oo and Myat Myat Win, "Bibliometric Study of Universities Research Journal (2008–2010)," *Universities Research Journal* 3, no.1 (December 2011): 91, accessed date March 10, 2020, https://oar.ydbu.edu.mm/bitstream/handle/123456789/74/Bibliometric%20Analysis.pdf?sequence=1&is_Allowed=y. (hereafter cited as Sanda Oo and Myat Myat Win)

10. Ibid.

11. M.K.G.Rajev & S.Joseph, "A Bibliometric analysis on Malaysian Journal of Library and Information Science: International Research," *Journal of Library and Information Science*, 6(1) (2016): 29–30, accessed April 3 2020, https://www.researchgate.net/publication/333118983_Publication_Output_of_Journal_Veterinary_World_2008-2017_A_Bibliometric_Analysis.

12. S.Bansal, "Bibliometric Analysis of the Veterinary Clinics of North America: Equine Practice," *International Journal of Information Dissemination and Technology* 7 (2), (2017): 120–122, accessed April 3, 2020, https://www.researchgate.net/publication/333118983_Publication_Output_of_Journal_Veterinary_World_2008-2017_A_Bibliometric_Analysis.

Vijayakumar, Sivasubraminiyan, Rao conducted a bibliographic analysis on the Journal Veterinary World during the period 2008-2017. This study was carried out to examine year-wise distribution of research articles, distribution of authorship, institution-wise distribution, length of articles, contribution of international authors, year-wise citation, etc.¹³

Thanganmani, Palaniappan and Vinoth Kumar conducted a research on bibliometric analysis of contributions in the Journal, Nature from 2013 to 2017. This study identified year-wise distribution of articles, authorship pattern, citations, etc. It can be identified that during five years, the highest number of articles 2944 (21.82%) were published out of 13499 articles. Among the 17031 citations, single author distributions were the highest number in citations.¹⁴

Yadav, Singh & Verma investigated authorship and collaborative contributions in SRELS Journal of Information Management for the period of 2008-2017. The collective contributions more than two authors were the highest number 382 (66.09%) out of 578 articles. Therefore, it can be identified that the multiple authorship patterns were the highest number and they were well-known in the journal.¹⁵

Yasmin & Prasad investigated the research publications of the faculty members of three arts and science colleges from Sivakasi between 1998-2018. It was found that overall research productivity was very low. The study concluded that, if the college administrations encouraged and supported for quality research, the faculty members were eager to engage in research publications with top-ranked journals.¹⁶

Sanda Oo and Myat Myat Win carried out the research on bibliometric analysis of the Universities Research Journal from 2008-2010. This study focused on the research performance of faculty members in various institutions of the Departments of Higher Education under the Ministry of Education. This study identified authorship pattern, subject-wise distribution, institution-wise contribution, institution-wise contribution of authors, and collaborative country-wise distribution of articles, etc. It can provide a great help to researchers who pursue research works in their specific discipline.¹⁷

3. Data Analysis and Interpretation

Bibliometrics is a special type of documentary research used in library and information studies, formerly called statistical bibliography. Bibliometrics is divided into

13. Vijayakumar, Sivasubraminiyan, Rao.

14. T.Thangamani, M.Palaniappan & C.V. Kumar, "A Bibliometric Analysis of Contributions in the Journal, Nature," *Library Philosophy and Practice (e-journal)* (2018): 1-19, accessed December 3, 2019, https://www.researchgate.net/publication/333118983_Publication_Output_ofJournal_'Veterinary_World'_2008-2017_A_Bibliometric_Analysis.

15. Sunil Kumar Yadav, S.N.Singh and Manoj Kumar Verma, "Authorship and Collaboration Pattern in SRELS Journal of Information Management during 2008-2017: An Evaluation," *Library Philosophy and Practice (e-journal)* (2019): 2400, accessed December 11, 2019, https://www.researchgate.net/figure/shows-that-the-authorship-pattern-of-publication-which-is-published-during-the-study_tbl1_330754113.

16. M.Yasmin & J.G.Prasad, "A Bibliometric Analysis of the Research Publications: A Case Study of Arts & Science Institutions in Sivakasi," *Journal of Advances in Library and Information Science*, 7(2) (2018): 141-146.

17. Sanda Oo and Myat Myat Win, 1.

two parts: content analysis and citation analysis. The analysis of data from Yadanabon University Research Journal was done through these two parts.

i. Number of Research Papers

A total number of 358 items published during the period 2009–2019 was analysed in this study.

Table 1. Year-wise Distribution of Research Papers

Year	Vol. No.	No. of Issues	No. of Contributions	Percentage
2009	1	1	17	4.75 %
2010	2	1	16	4.47 %
2011	3	1	21	5.87 %
2012	4	1	23	6.42 %
2014	5	1	13	3.63 %
2016	6	1	30	8.38 %
2016	7	1	42	11.73 %
2017	8	1	47	13.13 %
2018	9	1	45	12.57 %
2019	10	2	104	29.05 %
Total		11	358	100.00 %

Source: Survey

The above table shows that the maximum number of research papers were published in the year 2019 (104) and the minimum number in 2014 (13) papers. In the journal, an average of 33 papers were published per year.¹⁸

ii. Year-wise Authorship Pattern by Gender

Within the year of 2009–2019, the authors are analyzed in gender. Among them, the numbers and percentages are very different between males and females. But, contributed papers are not the same each year.

Table 2. Year-wise Authorship Pattern by Gender

Year	No. of Author		No. of Contribution
	Male	Female	
2009	7	19	26
2010	5	15	20
2011	6	27	33
2012	4	20	24
2014	6	12	18
2016	12	80	92
2017	12	47	59
2018	13	47	60
2019	25	116	141
Total	90	383	473
Percentage	19.03 %	80.97 %	100 %

Source: Survey

The above table shows that 116 female authors in 2019 were the highest number, and 12 female authors in 2012 were the lowest. In addition, in 2019, there were 25 male

18. Sanda Oo and Myat Myat Win, 93.

authors in maximum number and in 2012, 4 male authors, in minimum number. So, it can be said that the total number of male authors was lower than that of female authors yearly.

iii. Subject-Wise Distribution of Research Papers

For the subject-wise distribution, these papers were analyzed according to the subject groups. There are twenty-one subject fields. The following table shows the subject-wise distribution of papers during the year 2009–2019.

Table 3. Subject-wise Distribution of Research Papers

Subject	No. of Papers	Percentage
Myanmar	17	4.75 %
English	20	5.59 %
Geography	13	3.63 %
History	17	4.75 %
Philosophy	12	3.35 %
Psychology	12	3.35 %
International Relations	18	5.03 %
Law	11	3.07 %
Oriental Studies	9	2.51 %
Archaeology	16	4.47 %
Anthropology	6	1.68 %
Economics	3	0.84 %

"Table 3. — *Continued.*"

Subject	No. of Papers	Percentage
Library and Information Studies	18	5.03 %
Physics	32	8.94 %
Chemistry	41	11.45 %
Zoology	31	8.65 %
Botany	20	5.59 %
Mathematics	16	4.47 %
Geology	17	4.75 %
Computer Studies	6	1.68 %
Industrial Chemistry	23	6.42 %
Total	358	100 %

Source: Survey

The above table shows that contribution of research papers covered 21 fields of subject areas. In this study, the highest number of contribution appeared under Chemistry 41 (11.45%). It was followed by Physics 32 (8.94%), Zoology 31 (8.65%) and Industrial Chemistry 23 (6.42%). Besides, it was found that the minimum contributions were under Economics 3 (0.84%).¹⁹

iv. Language-Wise of Research Papers

The following table presents language-wise distribution of research papers during the periods 2009–2019. Table 4 shows the number of papers written in English and Myanmar language.

Table 4. Language-wise Distribution of Research Papers

Year	No. of Paper		Total
	English	Myanmar	
2009	15	2	17

19. Sanda Oo and Myat Myat Win, 95.

2010	16	-	16
2011	21	-	21
2012	23	-	23
2014	13	-	13
2016	72	-	72
2017	44	3	47
2018	43	2	45
2019	96	8	104
Total	343	15	358
Percentage (%)	95.81 %	4.19%	100 %

Source: Survey

The above table shows the maximum and minimum number of research papers in language-wise distribution. In the years from 2009 to 2019, the majority of the research papers were written in English with the number 343 (95.81%). Therefore, it is very much larger than the number of papers written in Myanmar Language - 15 (4.19%). In 2010, 2011, 2012, 2014 and 2016, the research papers were written only in English language.

v. Year-Wise Authorship Pattern

The names of all authors were figured out from all the 358 articles along with their authorship pattern. Those author names were checked and verified according to their affiliations to organization and frequencies of authorship in articles.

Table 5. Authorship Pattern

No. of (Units)	No. of Papers	Total Author	Percentage (%)
Single	285	285	79.61 %
Joint	73	188	20.39 %
Total	358	473	100 %

Source: Survey

Table 5 shows that out of 358 research papers, the higher number of research papers - 285 (79.61%) were contributed by single authors while joint authors contributed 73 (20.93%) research papers. It can be noted that the publication output of Yadanabon University Research Journal was influenced by single authors throughout the publications during the year 2009-2019.²⁰

vi. Length of Research Papers

The pages of the research papers are various. In Table 6, most of the researchers used (1 - 10) pages. In the year 2019, the papers were written in (1-10) pages and then (11-20) pages were used by the researchers.

Table 6. Length of Research Papers

Page Range	Year									Total	Percentage
	2009	2010	2011	2014	2014	2016	2017	2018	2019		
1-10	10	14	18	13	13	53	37	32	72	262	73.18 %
11-20	7	2	3	10	-	19	10	13	31	95	26.54 %
21-25	-	-	-	-	-	-	-	-	1	1	0.28 %
Total	17	16	21	23	13	72	47	45	104	358	100 %

Source: Survey

20. Sanda Oo and Myat Myat Win, 95.

Table 6 indicates that the majority of research papers– 262 (73.18%) contributed 1–10 pages. It was followed by 95 (26.54%) papers with 11–20 pages. In 2019, only one research paper (0.28%) had 21–15 pages. Therefore, it can be said that only one research paper written between 21–15 pages was the longest one among all publications of research papers.

vii. Year-wise Distribution of Citations

The year-wise distribution of various cited documents was discussed in Table 7. The authors cited various forms of documents, such as journals, books, reference books, seminar/conference proceedings, etc.

Table 7. Year-wise Distribution of Citations

Year	No. of Papers	No. of Citations	Percentage (%)
2009	17	146	4.03 %
2010	16	153	4.23 %
2011	21	191	5.28 %
2012	23	297	8.20 %
2014	13	132	3.65 %
2016	72	825	22.79 %
2017	47	445	12.29 %
2018	45	409	11.30 %
2019	104	1022	28.23 %
Total	358	3620	100 %

Source: Survey

Table 7 reveals that there were a total of 3620 citations in 358 papers of 11 issues during the nine-year period of journal publications. The average number of citations in each research paper were 10. In 2019, the journal was published in two issues. So, in that year, the number of cited materials was the largest among other issues.

Generally, the number of citations increased throughout all publications. Thus, it can be identified that the authors cited the literature of the related subject fields and had a provision of more citations for good contribution and relevance of their research works.

4. Findings and Discussion

The present study was carried out to access the research performance of academic staff from Yadanbon University. The observations indicate the following findings.

- The journal started with 17 (4.75%) publications in 2009 and the largest number of publication was 104 (29.05%) in 2019. So, the study reveals that the publications of research papers in this Research Journal indicated the progress of research contributions of Yadanabon University during the period 2009 to 2019.

- It indicated that the growth of publications and the patterns were almost cumulated.
- The average 33 papers were published per year.
- It was found that the majority of research papers 285 (79.615) were contributed by single authors compared with collaborative contributions.
- The study identifies that the highest number of research contributions appeared under Chemistry. It was followed by Physics, Zoology, Industrial Chemistry. But, all the research papers generally cover various fields of subjects in higher learning.
- During the period 2009–2019, 358 research papers were contributed by 473 authors from Yadanabon University.
- The maximum number of research papers 262 (73.18%) had the length of 1–10 pages followed by 95 (26.54%) papers with 11–20 pages.

Therefore, it is proposed that more research facilities should be provided to academic departments for encouraging research activities. It is necessary to conduct training programmes for academic staffs to pursue research activities. Well-known and outstanding academic staff should be offered awards and incentives according to their research performance conducted in their specific subject fields. It is very important for the academic institutions to encourage the academic staff to upgrade their research skills.

5. Conclusion and Recommendation

This study attempts to investigate the quantitative analysis of the research publications of the Yadanabon University Research Journal. Within the study period of the past nine years, research performance of the faculty members has significantly increased. In this study, data was collected and analysed from different points of views. The findings provide some effective factors useful for researchers, scholars, academic staffs and postgraduate students who are pursuing research works in specific disciplines.²¹ In this regard, Yadanabon University Research Journals from 2009 to 2019 were examined through bibliometric analysis. It was found that the journal plays a significant role among the academic institutions. During the nine-year periods, the journal could be seen to keep up its aim of acting as a center for all research contributions to all academic professionals in various fields.²² Finally, this paper indicated that the faculty's productivity is innovative and increasing quality outputs in their research fields.

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21 Sanda Oo and Myat Myat Win, 101.

22. Ibid.

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