

Citation Analysis of Veterinary Dissertations

S. Weerasinghe¹

Abstract

The author sought to understand the pattern of use of information resources by the university undergraduates in the Veterinary Medicine and Animal Sciences discipline. This study analyzed 6754 citations from 361 undergraduate dissertations from 2014-2018 submitted to the Faculty of Veterinary Medicine and Animal Sciences, University of Peradeniya, Sri Lanka. According to the findings journals were appeared to be the most preferred source of citation among the Veterinary Medical students. Data sets conformed to the Leimkuhler model derived from Bradford's law. In the ranked list of core journals in Veterinary science, *Journal of dairy science* took the first place with 108 citations. Further, results indicated that the students utilized current information mostly for their research. Further observation on authorship patterns of the journal citations indicated that the students of selected veterinary dissertations had mostly cited journal articles which have been authored in collaboration. Recommendations were drawn towards improving the library collection in a user-centric manner and strengthening library instruction. The study contributes to the realm of library literature where

¹ Senior Assistant Librarian, Veterinary Medicine & Animal Science Library, University of Peradeniya

Email: [sureniw1@yahoo.com](mailto:surenw1@yahoo.com)  <https://orcid.org/0000-0001-7337-8408>



Received: 17 September 2021, Accepted revised version: 22 December 2021
This work is licensed under a [Creative Commons Attribution-Share Alike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/).

research that focuses on citation analysis of Veterinary dissertations which is in scarce.

Keywords: Bradford's law, Citation, Dissertations, Veterinary, Undergraduates

Introduction

University undergraduates are the main user category to which the university library should cater adequately. The university library collection is the predominant information hub which the undergraduates utilize to meet their information needs. So, it is imperative that the library collection should be developed in a user-centric manner. Librarians should be conscious of changing user demands and design dynamic policies for collection development. Analyzing citations in students' dissertations is a popular and effective way to examine whether the library is in alignment with the user demands ([Gunasekera](#), 2013).

Alan Pritchard first coined the term "Bibliometrics" in 1969 to define "the application of mathematics and statistical methods of books and other media of communication" (Pritchard, 1969, p.349). Citation analysis, a branch of bibliometrics, "measures the utility of documents and relationship between their author and their documents" ([Banateppanvar et al.](#), 2013, p.147). This technique helps assess scholarly output, detect significant journals in a discipline, trace research traits and also provides the baseline to form scientific indicators ([Zafrunnisha](#), 2012). It is important that citation studies are conducted consistently and periodically in order to identify numerous developments and changes incorporated into scholarly output with time.

Librarians must recognize their users' information needs. Citation analysis is a powerful tool that helps librarians to make innovative and user-centric collection development decisions to design and enhance user services. Analyzing publications or dissertations submitted to a certain institute is a common approach of citation analysis. [Nabe and Imre](#) (2008, para 4) highlight that "dissertations clearly indicate the needs of

graduate students, and also indicate the research specialties of the faculty and departments as a whole”.

In the development of library collections, documents which are mostly cited are the most significant ones to be included into the library collection ([Sudhier](#), 2010). Also, since journals are of vital importance for research purposes, identifying most and least referred journals is salient in making subscription and cancellation decisions. The highly cited journals, which are “core journals”, a notion evolved from the Bradford’s law of scattering, “always contain a higher concentration of relevant articles in a particular discipline” ([Sudier](#), 2010, p.3). Citation analysis supports librarians to make effective collection development decisions against financial and space constraints. Moreover, insights into citation patterns would inform decision makers on library instruction and student outreach programs ([Wilson](#), 2012).

The Faculty of Veterinary Medicine and Animal Sciences (FVMAS), University of Peradeniya, Sri Lanka is the only faculty in the discipline of Veterinary Medical Science in Sri Lanka. In the FVMAS it is compulsory for final year undergraduates to carry out a research project and submit a report for their graduation. Copies of these dissertations are deposited at their faculty library, which is also the only Sri Lankan university library catering for users in the Veterinary discipline. The overall objective of the current study is to analyze the citations in undergraduate dissertations to ascertain whether the library is adequately satisfying research needs of the Veterinary medical undergraduates. This study is guided by the following specific objectives:

- To detect the most preferred types of publications cited by the student sample

- To demonstrate Bradford's law of scattering
- To compile a ranked list of core journals in the Veterinary Medicine field
- To trace the chronological distribution of cited material
- To examine the authorship patterns of the cited journal articles

Literature Review

Various researchers have applied citation analysis as a powerful tool for improving library collections in different disciplines. [Barnett-Ellis and Tang](#) (2016) attempted to develop a user-centric library collection by analyzing 2351 citations appended to 40 Masters' biology theses. Journals were appeared to be the most cited document accounting for 75% citations. Similarly, [Trigar et al.](#) (2013) analyzed the theses of Dental and Medical science graduates and found that journals were the most popular among the citations. Similar results were obtained by [Becker and Chiware](#) (2015) in their examination on of Master and doctoral dissertations in the Engineering discipline. Findings revealed that journals were the most utilized resource by the students. The authors concluded that citation analysis together with other methods is one of the most powerful tools to evaluate whether the library collection is adequately satisfying students' research demands.

In line with the above studies, [Fasae](#) (2012), [Banateppanvar et al.](#) (2013), [Sinha and Singha](#) (2016), [Griffin](#) (2016) and [Salami and Olatokun](#) (2018) have analyzed citations appended to Masters/PhD theses in diverse disciplines and identified that journals were the most dominant type of citation format among scholars.

However, different results were reported by [Mahajan and Kumar](#) (2017). The authors examined citations from PhD dissertations in the History discipline and identified that books were the most frequently used resource by History researchers. In the same way, [Rozenburg](#) (2015) also observed that books were the most preferred document of reference in his study of graduate theses in Sociology and Anthropology.

[Wilson](#) (2012) examined 2301 citations appended to 88 undergraduate honors theses submitted to the University of South Alabama, Library. It was revealed that books and journals were more popular among students in all disciplines except Social Sciences, in which news-papers were heavily cited by the students. In a related study, [Gadd et al.](#) (2010) analyzed final-year projects of MEng Civil Engineering students and BSc Construction Engineering Management (CEM) students. Overall, the students had cited books (27.5%) more frequently, followed by journals (24.8%). Furthermore, journals were highly cited by the MEng students in comparison with CEM students. [Kohn and Gordon](#) (2014) perused bibliographies of undergraduate theses from three departments: Sociology, Psychology and International studies. The authors found that journals were the most popular source of citation and that more than 70% of these cited journals were accessible through the Library. Thus, it was shown that the undergraduates were more likely to cite what was available in their institution.

[Oliveira](#) (1984) conducted a study in the domain of Veterinary Medicine and Animal Science, in Brazil to trace out the citation trend in Veterinary medicine discipline using Masters Dissertations. Periodicals, which accounted for 70% of total citations, was found to be the most preferred information source consulted by the researchers. *The Journal of*

American Veterinary Medicine Association topped the ranked list of journals. However, the data sets of the study did not satisfy the Bradford's law. Corroborating the above results, [Olatokun and Makinde](#) (2009) also found that students mostly cited journals in their study of Masters dissertations submitted to the Department of Animal Science in a Nigerian University. Further, the findings had implications for “both collection development and user service design in libraries” ([Olatokun & Makinde](#), 2009, p.117).

[Pelzer and Wiese](#) (2003) analyzed bibliographic citations appended to twelve core Veterinary journals and observed that 6.38% of citations were grey literature. Also, they found that conferences played a crucial role accounting for 50.1% of the grey literature. It was concluded that the prevalence of grey literature was lower in Veterinary scholarly communications. In another study, [Crawley-Low](#) (2006) compiled a list of significant journals in the Veterinary Medical discipline by analyzing citations appeared in the *American Journal of Veterinary Research*. It was also revealed that Veterinary Medical researchers mostly cited journals.

The literature amply demonstrates evidence of using citation analysis spanning dissertations across various disciplines. However, there is a dearth of studies that examine dissertations for developing the collection in a Veterinary Library. Thus, this study will contribute to fill this gap in literature while extending the sphere of knowledge in the realm of citation analysis within the Veterinary Medicine discipline.

Methodology

The study analyzed 361 dissertations submitted by undergraduates to the FVMAS, University of Peradeniya, Sri Lanka during the time span of 2014-2018. Reference lists of each dissertation were closely examined and relevant information such as publication type, year, authorship, journal name (for journal citations) was tabulated in alignment with the study objectives using MS Excel sheets. The citations were categorized into seven broad categories as follows: Books, Journals, Dissertations, Proceedings, Web (Internet) resources, Reports (i.e. annual reports and technical reports) and Miscellaneous (i.e. handbooks, newspapers, standards, magazines and course material).

A total of 6754 citations appended in the 361 dissertations formed the basis for this study and the citations were quantitatively analyzed using descriptive statistics. Journal citations were compiled separately according to their descending order of frequency. Bradford's law of scattering was employed to identify significant journals.

Applying the Bradford's law

The Bradford's law is a powerful bibliometric tool that is extensively applied in determining the productivity of journals ([Sudhier, 2010](#)). This law outlines the quantitative relationship among journals and the articles contained in them. Journals are compiled in descending order of productivity of articles based on citations of a given subject and divided into three approximately equal zones. Bradford defined the first zone as the "nuclear zone", the second zone as moderately productive and the third zone as the low productive zone ([Bardford, 1950](#);

[Weerasinghe](#), 2017). The “nuclear zone” which accounts for a small number of core journals, is highly productive ([Weerasinghe](#), 2017).

Bradford had expressed his law as:

[. . .] if scientific journals are arranged in the order of decreasing productivity of articles on a given subject, they may be divided into a nucleus of periodicals more particularly devoted to the subject and several groups or zones containing the same number of articles as the nucleus, where the numbers of periodicals in the nucleus and succeeding zones will be as 1: n: n² [. . .] ([Bradford](#), 1950, p. 116). Here ‘n’ is a multiplier.

Several researchers formulated mathematical models based on Bradford’s Law to better explain the phenomenon of scattering. [Leimkuhler](#) (1980) introduced a model based on Bradford’s verbal formulation ([Weerasinghe](#), 2017):

$$R(r) = a \log (1 + br) ; \quad r=1,2,3, \dots$$

Where R(r) is the cumulative number of items produced by sources of rank 1,2,3,.. . , r.

a and b are constants appearing in the Leimkuhler’s law ([Weerasinghe](#), 2017). This can be applied to compute the number of articles in a journal at a certain rank.

While describing Leimkuhler’s law, [Egghe](#) (1986, 1990a, 1990b) verified:

$$a = Y_0 / \log k \text{ and } b = (k - 1) / r_0$$

Where r₀ is the number of sources in the first Bradford’s group, Y₀ is the number of items in every Bradford group and k is the Bradford multiplier.

[Egghe](#) (1986) derived a mathematical formula to compute k , attributing to the fact that when journals are ranked according to their decreasing order of productivity, Y_m will be the number of articles in the rank one journal.

p is the number of groups and a parameter which can be selected freely when creating Bradford groups.

After p and Y_m are found, k can be computed using: $k = (e^\gamma Y_m)^{1/p}$

Here γ is Euler's number $\gamma = 0.5772$ and $e^\gamma = 1.781$

Then, $k = (1.781 Y_m)^{1/p} \dots\dots\dots(x)$

Whereas $Y_o = Y_m^2 \log k$ and

$$r_o = (k - 1)Y_m$$

[Egghe](#) (1990a, 1990b) has shown that:

$Y_o = A/p$, where A is the total number of articles in the bibliography.

If T is the total number of journals, in the i^{th} Bradford group, there are $r_o k^{i-1}$ journals ($i = 1, 2, 3, \dots, p$) ([Weerasinghe](#), 2017).

Thus,

$$T = r_o + r_o k + r_o k^2 + \dots + r_o k^{p-1}$$

$$\text{So, } r_o = T / (1 + k + k^2 + \dots + k^{p-1}) = T (k - 1) / (k^p - 1)$$

A and T can be derived from raw data. r_o and Y_o are found after k is computed using the formula (x), i.e. $k = (1.781 Y_m)^{1/p}$

Results and Discussion

In the current study 6754 citations were identified from the 361 under graduate dissertations submitted to the FVMAS over the time period of 2014-2018. The total number of dissertations and the citations appended to those according to the submitted year are illustrated by Table 1. The maximum number of dissertations, 78 (21.61%) containing the

maximum number of citations, 1665 (24.65%) had been submitted in the year 2017.

Table 1

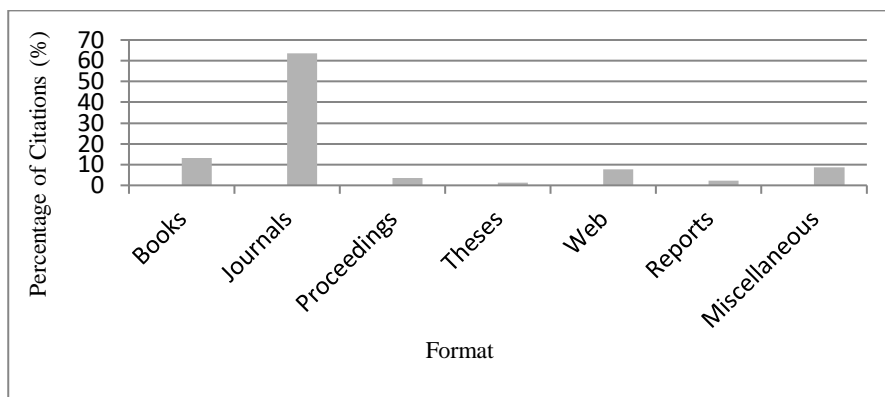
Distribution of the dissertations and their citations according to the year of submission

Year	No. of dissertations	(%) Dissertations	Number of citations	(%) Citations
2018	77	21.33	1617	23.94
2017	78	21.61	1665	24.65
2016	75	20.78	1161	17.19
2015	69	19.11	1177	17.43
2014	62	17.17	1134	16.79
Total	361	100.00	6754	100.00

Figure 1 depicts the distribution of cited materials by their format. It is evident from Figure 1 that journals are the most popular citation format (63.64%) among Veterinary Medical students conforming to prior related studies such as [Oliveira](#) (1984); [Olatokun and Makinde](#) (2009). Furthermore, Books are the second highest percentage of citations (13.07%), followed by citations from miscellaneous items (8.65%) and web citations (7.86%).

Figure 1

Distribution of cited material by format



Applying the Bradford’s law

The total number of journal citations (4298) was divided into three approximately equal zones. 61 journals contained 1468 citations while the next 287 journals contained 1367 citations and the next 1231 journals covered 1463 citations respectively. Conforming to Bradford zones, the relationship between each zone is 61:287:1231. The data set does not comply with the Bradford’s distribution (Tables 2 and 3)

Thus, the model formulated by Leimkuhler was applied to prove the Bradford’s law.

Number of groups $p=3$ and the number of articles in the most productive source $Y_m=108$.

Bradford multiplier k , $k = (e^{\gamma} Y_m)^{1/p}$

$$k = (1.781 \times 108)^{1/3} = 5.77$$

The number of items in every Bradford group (Y_o), $Y_o = A/p = 4298/3 = 1433$

Table 2

Distribution of Journals

R a n k	Number of journals	Cumulative number of journals (n)	Number of citations	Total number of citations	Cumulative number of citations	log(n)	% Cumulative Citations
1	1	1	108	108	108	0	2.51279665
2	1	2	66	66	174	0.693147	4.0483946
3	1	3	59	59	233	1.098612	5.42112611
4	1	4	45	45	278	1.386294	6.46812471
5	1	5	43	43	321	1.609438	7.46859004
6	1	6	37	37	358	1.791759	8.32945556
7	2	8	36	72	430	2.079442	10.0046533
8	3	11	35	105	535	2.397895	12.4476501
9	1	12	33	33	568	2.484907	13.215449
10	2	14	32	64	632	2.639057	14.7045137
11	1	15	31	31	663	2.70805	15.4257794
12	2	17	27	54	717	2.833213	16.6821778
13	3	20	26	78	795	2.995732	18.4969753
14	1	21	25	25	820	3.044522	19.0786412
15	1	22	23	23	843	3.091042	19.6137738
16	2	24	22	44	887	3.178054	20.6375058
17	1	25	20	20	907	3.218876	21.1028385
18	3	28	19	57	964	3.332205	22.4290368
19	3	31	18	54	1018	3.433987	23.6854351
20	5	36	17	85	1103	3.583519	25.6630991
21	9	45	16	144	1247	3.806662	29.0134946
22	5	50	15	75	1322	3.912023	30.7584923
23	3	53	14	42	1364	3.970292	31.735691
24	8	61	13	104	1468	4.110874	34.1554211
25	3	64	12	36	1504	4.158883	34.99302
26	3	67	11	33	1537	4.204693	35.760819
27	8	75	10	80	1617	4.317488	37.6221498
28	11	86	9	99	1716	4.454347	39.9255468
29	16	102	8	128	1844	4.624973	42.9036761
30	12	114	7	84	1928	4.736198	44.8580735
31	18	132	6	108	2036	4.882802	47.3708702
32	46	178	5	230	2266	5.181784	52.7221964
33	59	237	4	236	2502	5.46806	58.2131224
34	111	348	3	333	2835	5.852202	65.9609121
35	232	580	2	464	3299	6.363028	76.756631
36	999	1579	1	999	4298	7.364547	100

Table 3

The distribution of journals and citations across Bradford's zones

Zone	Number of journals	Number of citations	% Journals	% Citations
1	61	1468	3.863	34.155
2	287	1367	18.176	31.806
3	1231	1463	77.961	34.039
Total	1579	4298	100	100

Number of journals in the first Bradford group r_0 :

$$r_0 = T(k - 1)/(k^p - 1) = 1579 (5.77 - 1)/(5.77^3 - 1) = 39.4$$

Here, $T=1579$

Therefore Bradford's distribution:

$$39.4:39.4(5.77):39.4(5.77^2) = 39.4: 227.34:1311.74$$

$$\text{Percentage error} = \{(1579 - (39.4 + 227.34 + 1311.74))/1579\} * 100\% = 0.03\%$$

The percentage error (0.03%) is negligible. This indicates that the data fits well with the Leimkuhler model derived from the Bradford's law. Thus, in the first zone 39 journals, i.e., the core journals (2.47%) covered 1151 citations (26.78 %), the next 228 journals (14.439%) covered 1441 citations (33.527 %) whereas the next 1312 journals (83.091%) spanned 1706 citations respectively (39.693 per cent) (Table 4). Figure 2 illustrates the Bradford plot for journal distribution which confirms the verbal formulation that detects specific regularity in the organization of scholarly work ([Sudhier, 2010](#)). This indicates that only a small numbers of journals are highly cited by students.

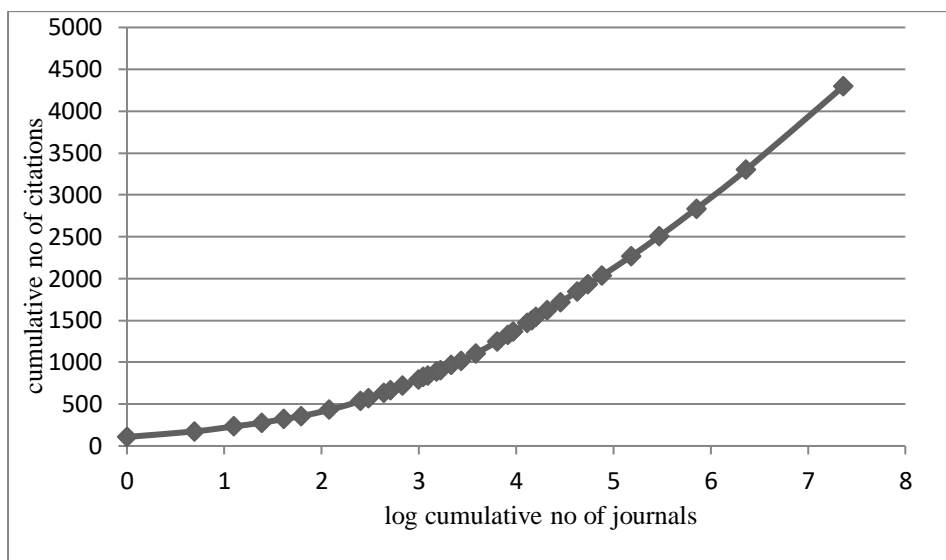
Table 4

The distribution of journals and citations according to Leimkuhler model

Zone	Number of journals	Number of citations	% Journals	% Citations
1	39	1151	2.470	26.780
2	228	1441	14.439	33.527
3	1312	1706	83.091	39.693
Total	1579	4298	100	100

Figure 2

Bradford plot for journal distribution



The results indicate that the nuclear zone consists of 39 highly cited journals (core journals) by the veterinary medical students. Table 5 exhibits the ranked list of core journals. *Journal of dairy science*, with 108 citations, topped the ranked list while *Poultry science* secured the

second place with 66 citations followed by the *Journal of clinical microbiology* and *Veterinary Parasitology*.

Table 5

Journals in Bradford zone 1-Ranked list of core journals

	Name of the Journal	Rank
1	Journal of dairy science	1
2	Poultry Science	2
3	Journal of clinical microbiology	3
4	Veterinary parasitology	4
5	Applied and environmental microbiology	5
6	Veterinary microbiology	6
7	Plos one	7
8	Theriogenology	7
9	Emerging infectious diseases	8
10	Journal of the American veterinary medical association	8
11	Veterinary record	8
12	Tropical agricultural research	9
13	Journal of antimicrobial chemotherapy	10
14	Sri Lanka veterinary journal	10
15	Journal of reproduction and fertility	11
16	Avian pathology	12
17	Zoo biology	12
18	Avian diseases	13
19	Clinical microbiology reviews	13
20	Revue scientifique et technique international office of epizootics	13
21	Journal of veterinary medical science	14
22	Clinical infectious diseases	15
23	American journal of veterinary research	16
24	Journal of animal science	16
25	Canadian veterinary journal	17
26	Applied animal behavior science	18
27	Veterinary clinics of North America: Small animal practice	18

28	Veterinary journal	18
29	Aquaculture	19
30	Ceylon veterinary journal	19
31	Journal of small animal Practice	19
32	Animal reproduction science	20
33	Food chemistry	20
34	Journal of applied poultry research	20
35	Journal of parasitology	20
36	Journal of virology	20
37	Journal of applied microbiology	21
38	Journal of the national science foundation of Sri Lanka	21
39	Journal of veterinary internal medicine	21

Chronological Distribution of Cited Documents

Table 6 exhibits the number of citations covering the period from 1950 to 2018. For convenience, the overall citations were divided into 8 classes, each spanning a 10 year time period up to 2010, followed by 8 year period afterwards (i.e. 2011 to 2018). The chronological distribution of cited materials outlines the currentness of scholarly work utilized by researchers while demonstrating the growth of a discipline with respect to research output ([Banateppanavar et al., 2013](#); [Yeap and Kiran, 2017](#)). Table 6 indicates that Veterinary Medical students had mostly cited material published over the time period of 2001-2010 followed by material published in 2011-2018. This result clearly indicates the necessity off or recent information among undergraduates in the field of Veterinary Medicine and Animal Science in satisfying their research desires.

Table 6

Chronological distribution of cited documents

Year of Publication	Number of citations	% Citations
2011-2018	1962	29.049
2001-2010	2498	36.986
1991-2000	1103	16.332
1981-1990	432	6.396
1971-1980	195	2.887
1961-1970	102	1.511
1951-1960	47	0.696
1950 and before	47	0.696
No date	368	5.447
Total	6754	100

Authorship Patterns of Cited Documents

Analyzing the authorship patterns is a salient attribute of citation analysis. In the current study, the journal citations were selected to determine the authorship pattern. Results revealed that most of the journal citations (62.471%) were by three authors, 19.148% of them were by two authors while 17.799% of citations were by a single author (Table 7). Table 7 shows that the majority of citations (81.619%) were by multi-authors (two or more). This indicates that the journal articles cited by Veterinary medical undergraduates have mostly been written by multiple authors.

Table 7

Authorship patterns of journal citations

Authors	Citations	% Citations
1	765	17.799
2	823	19.148
3	2685	62.471
4	10	0.233
Institutions	5	0.116
No author	10	0.233
Total	4298	100

Conclusion

This study indicated that journals were the most frequently used information resource by Veterinary Medical undergraduates in fulfilling their research purposes. Data sets were in accordance with the Leimkuhler model derived from Bradford's law. Thus, 39 journals were identified as core journals whereas *Journal of dairy science* topped the ranked list. Based on the findings, indicators can be developed in support of the Veterinary library collection development ([Weerasinghe, 2017](#)). The library management can use the "core journals" which are significant and of greater productivity to incorporate into the collection. Subscription priority can be given to these significant journals. Several core journals (e.g. *Journal of dairy science, Poultry science, Veterinary parasitology, Veterinary microbiology and Theriogenology*) which are published by Elsevier could be accessed via the Science Direct database. Thus, it is recommended to subscribe the Science Direct database to enhance the access to Veterinary library e-resources.

The chronological distribution of cited material shows that the students preferred to use recent and up-to-date material indicating the need for acquiring current library material for the library collection. The authorship traits of journal citations reflect that the Veterinary medical undergraduates had mostly cited journal articles which have been produced as collaborative outputs.

The results of this study will aid to inform decisionmakers on improving library instruction. The results could be presented to the Faculty and discuss on the Faculty expectations and current strategies in guiding undergraduate research and how librarians could help by improving library instruction.

However, this study has some limitations. This study analyzed all citations in aggregate; hence it does not provide insight into individual use of information resources ([Wilson](#), 2012). Also, the study examined only reference lists of each dissertation which does not ascertain whether all those resources were effectively used within the text. This study focused on final year project reports, therefore the resources utilized are predominantly fulfilling undergraduates' research purposes only.

This study can be further improved by conducting surveys and interviews among library users in order to capture insights into the usage and to enhancing the collection in a user-oriented manner. Also, it is imperative to take into account the commendations of the Faculty to verify whether the current library system is in alignment with the students' requirements.

References

- Banateppanvar, K., Biradar, B.S., & Kannappanavar, B. U. (2013). Citation analysis of doctoral theses in Biotechnology submitted to Kuvempu University, Karnataka: A case study. *International Journal of Information Dissemination and Technology*, 3(3), 147-157.
- Barnett-Ellis, P. & Tang, Y. (2016). User-Centered collection development: A citation analysis of graduate Biology theses. *Collection Management*, 41(1), 3-22.
- Becker, D.A. & Chiware, E.R. (2015). Citation analysis of masters' theses and doctoral dissertations: Balancing library collections with students' research information needs. *The Journal of Academic Librarianship*, 41(5), 613-620.
- Bradford, S.C. (1950). *Documentation*. Washington: Public Affairs Press.
- Crawley-Low, J. (2006). Bibliometric analysis of the American Journal of Veterinary Research to produce a list of core veterinary medicine journals. *Journal of the Medical Library Association*, 94(4), 430-434.
- Egghe, L. (1986). The dual of Bradford's law. *Journal of the American Society for Information Science*, 37(4), 246-255.
- Egghe, L. (1990a). A note on different Bradford multipliers. *Journal of the American Society for Information Science*, 41(3), 204-209.
- Egghe, L. (1990b). Applications of the theory of Bradford's law to the calculation of Leimkuhler's law and the completion of bibliographies. *Journal of the American Society for Information Science*, 41(7), 469-492.
- Fasae, J. K. (2012). Citation analysis of dissertations and theses submitted to the department of agricultural economics and extension,

Federal University of Technology Akure. *Library Philosophy and Practice (E-journal)*. 741.

<http://digitalcommons.unl.edu/libphilprac/741>

Gadd, E., Baldwin, A.N. & Norris, M. (2010). The citation behavior of civil engineering students. *Journal of Information Literacy*, 4(2), 37-49.

Griffin, K.L. (2016). Citation analysis for core journals in educational leadership. *Collection Building*, 35(1), 12 -15

Gunasekera, C. (2013). Citation analysis of masters theses: as a tool for collection development in academic libraries. *Journal of the University Librarians Association of Sri Lanka*, 17(2), 88-103.

Kohn, K.C. & Gordon, L. (2014). Citation Analysis as a Tool for Collection Development and Instruction. *Collection Management*, 39(4), 275-296.

Leimkuhler, F.F. (1980). An exact formulation of Bradford's law. *Journal of Documentation*, 36(4), 285-292.

Mahajan, P., & Kumar, A. (2017). Citation analysis of doctoral theses references as a tool for collection management in history: A study of Panjab University, Chandigarh (India). *Library Philosophy and Practice (E-Journal)*. 1464.

<https://digitalcommons.unl.edu/libphilprac/1464/>

Nabe, J. & Imre, A. (2008), Dissertation citations in Organismal Biology at Southern Illinois University at Carbondale: implications for collection development. *Issues in Science & Technology Librarianship*, 55(Fall).

https://opensiuc.lib.siu.edu/morris_articles/11/

- Olatokun, W.M. & Makinde, O. (2009). Citation analysis of dissertations submitted to the Department of Animal Science, University of Ibadan, Nigeria. *Annals of library and information studies*, 56(2), 117-128.
- Oliveira, S.M.D. (1984). Citations pattern in veterinary medicine dissertations. *Annals of Library Science and Documentation*, 31(3-4), 147-155.
- Pelzer, N.L. & Wiese, W.H. (2003). Bibliometric study of grey literature in core veterinary medical journals. *Journal of the Medical Library Association*, 91(4), 434-441.
- Pritchard, A. (1969). Statistical bibliography or bibliometrics. *Journal of Documentation*, 25(4), 348-349.
- Rosenberg, Z. (2015). Citation analysis of MA theses and PhD dissertations in sociology and anthropology: An assessment of library resource usage. *The Journal of Academic Librarianship*, 41(5), 680-688.
- Salami, M. O. & Olatokun, W. M. (2018). Citation analysis of Ph. D. Theses at faculty of science, university of Ibadan, Nigeria. *Issues in Science and Technology Librarianship*, 89. <http://www.istl.org/18-spring/refereed3.html>
- Sinha, M. K. & Singha, S. (2016). Citation Analysis of MLIS Dissertations Submitted to Assam University, Silchar during 2012-2013. *Scientific Society of Advanced Research and Social, SSARSC International Journal of Library, Information Networks and Knowledge*, 1(2), 1-17.

- Sudhier, K.G. (2010). Application of Bradford's law of scattering to the physics literature: a study of doctoral theses citations at the Indian Institute of Science. *Journal of Library*, 30(2), 3-14.
- Trigar, A., Abolghasemi, M. B. & Yaminfrooz, M. (2013). Citation analysis of graduate Dental thesis references: before and after an intervention. *Future of Medical Education Journal*, 3(1), 1-7.
- Weerasinghe, S. (2017). Citation Analysis of Library and Information Science research output for collection development. *Journal of the University Librarians Association of Sri Lanka*, 20(1).
- Wilson, E. K. (2012). Citation Analysis of Undergraduate Honors Theses. *The Southeastern Librarian*, 60(1).
<https://digitalcommons.kennesaw.edu/seln/vol60/iss1/7>
- Yeap, C. K., & Kiran, K. (2017). Citation study of library and information science dissertations for collection development. *Malaysian Journal of Library & Information Science*, 13(2), 29-47.
- Zafrunnisha, N. (2012). Citations in the sociology doctoral dissertations: a quantitative analysis. *International Journal of Information Dissemination and Technology*, 2(3), 212-218.