

## THE JOURNAL OF POULTRY SCIENCE: AN ANALYSIS OF CITATION PATTERN

**Md. Enamul Haque, PhD**

Deputy Librarian, Bangladesh Agricultural University, Mymensingh 2202, Bangladesh

### ABSTRACT

*This paper reports the results of the citation analysis of “The Journal of Poultry Science (JPS).” The major objectives of the study from the year 2001 to 2010 are to find out the authorship and citation patterns of articles appeared in the JPS. The total 425 articles were published during the period. Overall 13012 citations featuring 425 contributors have been made. Among the citations, journal articles accounted for 84%, books 8% and another’s 8%. The ratio of Author Self Citation to total citations is 1:16. The ratio of Journal Self Citation to total citations 1:58. It is also clear that majority of the documents 10102 (78%) cited in these issues were published not more than 20 years ago.*

DOI: <http://dx.doi.org/10.3329/el.v23i1.12121>

### KEYWORDS

*Citation Analysis, Poultry Science.*

### INTRODUCTION

The word Citation is well known to all literary persons or author(s). But citation analysis is not common to all. It makes particularly appropriate for journal analysis is the nature of the journal itself: an ongoing publication which is edited for quality and maintains some consistency of standards. Thus, the citations received by past articles can be used to predict the utility of present or future articles.

According to Hirade & Dankhade (2002) citation analysis is one of the popular methods employed in recent days for the identification of core documents in various subject fields or for a particular specific community in a geographical

proximity. In fact, citation study is one of the effective and indirect methods to understand the information requirements of users.

The significant of the scholarly communication media is now considered as the journals that play a primary role in the dissemination of information to the research scholars and the scientists in different fields who are doing research in day and night for inventing something new for the development of the society as well as the welfare of the human beings. Traditionally the quality of the journals is evaluated by the subject experts of that particular journal or by any scholarly academician. However based on the normative perspective of citation which views citing as a merit-granting process it is plausible to assume that the information value of a given publication is reflected by the frequency of citation obtained from other publications. (Weiping Yue, Concepts and Wilson, 2004). On the other hand, “citation analysis is one of the popular methods employed in recent days for the identification of core documents in various subject fields or for a particular specific community in a geographical proximity. In fact, citation study is one of the effective and indirect methods to understand the information requirements of users.” (Hirade and Dankhade, 2002). Again, Citation analysis measures how often items are cited in references, bibliographies, or indexing tools and compares their frequency of occurrence to collection holdings. (Locket, 1989).

There are different citation analyst have given different definition and how to evaluate the journal articles in different form of documents. “The journal citation indicators from the Institute of Scientific Information (ISI) have become popular measures in assessing journal performance, in particular the journal impact factor and the number of total citations. (Baskaram, Batcha , and Nagarjan, 2007).

Interrelationship among journal citation impact and four external factors that is journal characteristic, journal accessibility, journal visibility and journal internationality have been successfully explored, and the conceptual model of journal evaluation has been examined.

Therefore citation counts can be used as indicators or measurements of the level of quality, importance, influence or performance of individual publications or aggregations of publications, such as journals. (Wilson, 1999)

The goal of this study is to use citation analysis whether the BAU library is meeting the needs of information to the researchers of the Poultry Science department.

## LITERATURE REVIEW

Jan (2009), in his study found that 593 articles published in the journal of Library Trends from 1994 to 2007. Out of 13783 citations, articles accounted 44.04%, books 44.51% and another's were proceedings, reviews and reports. Female contribution (52.34%) accounts more than male contributions (47.66%). Every issue published approx. 11 articles and each article has an average of 23.2 references and 3.1 e-citations.

Shokeen and Kaushik (2004) in their study found that among the citations, 24.54% were single author, 35.6% double, 21.24 Triple, 11.49% were four and rest five or more author. Out of 187 contributors, 4.28% college, 47.59% university and rest 48.13% were research institutes. Among the citations (1149), 81.11 % articles and 13.84 % were books. The ratio of author self citation to total citations were 1: 16.65 & also journal self citation 1: 31.91. Most of the cited documents were published not more than twenty years ago.

## SOURCE JOURNALS

*The Journal of Poultry Science* (JPS) is an international journal published by the Japan Poultry Science Association from the year 1991 and onwards. The JPS covers all aspect of modern poultry science. The journal publishes original articles (full-length articles and research notes) and review articles written only in English language from 2001. At the beginning (1991) this journal as appeared as *Japanese Journal of Poultry Science* in Japanese language. From 2001 this journal was renamed *The Journal of Poultry Science*. Subjects include : Breeding & Genetics, Nutrition & Feeds, Physiology, Reproduction, Immunology, Environmental Science, Management & Housing welfare, Processing & Products, and Health in poultry. Submission of original articles to the journal is opened to all poultry researchers. The review articles are invited papers written by international outstanding researchers. Articles will be published in English, American style.

## SCOPE

There are 13012 citations appended to 425 articles appeared in *The Journal of Poultry Science* from 2001 to 2010 have been analyzed. The journal is a quarterly published and covered vol. 38 to 47 for this study. The study mainly

covered research articles, references appended at the end of the articles, authorship pattern of citations, percentage of contributors and journal self citation to total citations , publication years of the cited articles, citation forms for analysing purposes.

### **OBJECTIVES OF THE STUDY**

The major objectives of the present study are :

- i) to find out the authorship pattern;
- ii) to find out the number of citations used;
- iii) to identify the contributors organizations;
- iv) to identify the forms of citations;
- v) to prepare the list of contributing countries;
- vi) to identify the ratio of Author Self Citation to the total number of citations;
- vii) to identify the ratio of Journal Self Citation to the total number of citations and
- viii) to identify the durability of literature.

### **METHODOLOGY**

All the articles of volumes 38 to 47 (2001 – 2010) of the journal were scanned, checked, examined and tabulated manually in terms of authorship pattern, authors collaboration, institutional affiliation, local versus foreign contributors, ratio of author & journal self citation s and durability of publications. Finally, the collected data was analysed for generating information. The analysis and discussion are shown in the following tables. Single diagram has been provided using MS Excel.

### **ANALYSIS AND DISCUSSION**

#### **Authorship pattern**

In Table 1, it is seen that the details of the distribution of 425 articles published in the Journal of Poultry Science from January to December' 2001 to 2010 within 39 issues. The maximum number of articles 1<sup>st</sup> and 2<sup>nd</sup> 100 (23.53%) and 97 (22.82%) were published triple and four authors. Single author publication are also poor 22 (15.18%) and the third highest 81 (19.06%) were published more than five authors. It is seem near about fifty percent articles were published were triple and four authors.

Table 1: Authorship Pattern

Years	Number of Authors						Total
	1author	2authors	3 authors	4authors	5authors	>5authors	
2010	01	04	10	11	11	14	51
2009	02	05	07	12	03	13	42
2008	02	03	11	10	06	13	45
2007	02	08	18	13	10	07	58
2006	04	04	13	17	06	09	53
2005	01	11	10	08	06	05	41
2004	01	06	10	09	05	02	33
2003	01	07	09	05	05	05	32
2002	05	07	05	08	04	06	35
2001	03	09	07	04	05	07	35
Total	22	64	100	97	61	81	425
Percentage(%)	5.18	15.06	23.53	22.82	14.35	19.06	100

### Number of Citations Used by Different Types of Collaborators

Table 2 shows the detail picture of the authorship pattern of citations. After analysing the above citations 13012 were published of 425 articles JPS, vol. no. 38 to 47. It shows most of the citations 3203 (24.62%) and 2649 (20.36%) are triple and four authored. More than five and five authored citations amount 1942 (14.92%) and 1738 (13.36%) respectively. 2311(17.26%) citations are contributed by double authors and only 1169 (8.978%) citations are contributed by single author respectively. Keeping in view the results we can say that in the field of poultry science still combined research predominates.

Table 2: Number of Citations Used by Different Types of Collaborators

Year	Number of Citations						Total
	1author	2authors	3 authors	4authors	5authors	>5authors	
2010	29	204	416	381	340	359	1729
2009	238	144	218	299	175	369	1443
2008	215	127	296	230	133	364	1365
2007	35	257	639	502	339	149	1921
2006	097	111	549	556	201	178	1692
2005	093	327	204	154	142	095	1015
2004	041	339	194	211	100	046	931
2003	054	461	168	081	096	099	959
2002	325	140	071	174	120	154	984
2001	042	201	448	061	092	129	973
Total	1169	2311	3203	2649	1738	1942	13012
Percentage(%)	8.98	17.26	24.62	20.36	13.36	14.92	100

### **Types of Institutional Affiliation of Contributors**

Table 3 reveals that 278 (65.41%) contributors are affiliated to universities, 69 (16.24%) are research institute, and 53 (12.47%) are colleges and only 25 (5.88%) belong to other organizations. Hence results have clearly demonstrated that contributors from universities predominate. For table 3 it has considered the first author affiliated to the institutions for analysing purposes.

Table 3: Types of Institutional Affiliation of Contributors.

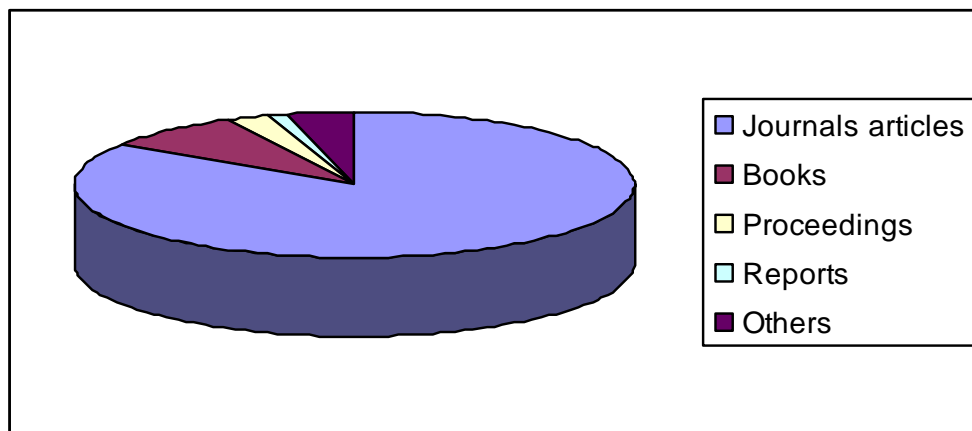
<b>Type of Institutions</b>	<b>Number of Contributors</b>	<b>Percentage(%)</b>	<b>Cumulative %</b>
Colleges	53	12.47	-
Universities	278	65.41	77.88
Research Institutes	69	16.24	94.12
Others Organization	25	5.88	100
Total	425	100	-

### **Forms of Citations**

A perusal of table 4 shows that a majority of citations pertain to the journal articles 10972 (84.32%) and 1048 (8.06%) citations are used from books. 523 (4.02%) are others and only 340 (2.61%) citations pertain are proceedings, 129 (0.99%) citations pertain to reports of information. From this study it is clear that the most of the authors used journals articles. Journal articles can play vital roles for research purposes. So, it can be said that most of the researchers are havily depended on journals articles.

Table 4: Forms of Citations

<b>Form of cited Documents</b>	<b>Number of Contributors</b>	<b>Percentage (%)</b>	<b>Cumulative %</b>
Journals Articles	10972	84.32	-
Books	1048	8.06	92.38
Proceedings	340	2.61	94.99
Reports	129	0.99	95.98
Others	523	4.02	100
Total	13012	100	-



### Percentage of Japanese vs. Foreign Contributors

Table 5 shows an alphabetical list of countries from where the authors contributed the articles to the journal. When an article contributed by more than single authors than first author have been considered for analysing purpose. The table also shows that the 262 (61.64%) articles out of 425 were originated from Japan. This journal is published from Japan. The international contribution of papers 163 (38.36%) from 33 countries and out of which highest papers only 27 (6.35%) were given from USA and nearest India and China are 17 (4.00%) & 10 (2.35%).

Table 5: Percentage of Japanese vs. Foreign Contributors

Sl.No	Name of Countries	Contribution	Percentage (%)	Cumulative %
01.	Australia	02	0.47	-
02.	Bangladesh	08	1.88	2.35
03.	Belgium	02	0.47	2.82
04.	Brazil	03	0.70	3.52
05.	Bulgeria	01	0.24	3.76
06.	Canada	07	1.65	5.40
07.	China	10	2.35	7.76
08.	Egypt	05	1.18	8.94
09.	Ethiopia	01	0.24	9.18
10.	Franc	01	0.24	9.42

11.	Greece	01	0.24	9.66
12.	Germany	04	0.94	10.60
13.	Hungary	01	0.24	10.84
14.	India	17	4.00	14.84
15.	Indonesia	03	0.70	15.54
16.	Iran	19	4.47	20.01
17.	Israil	01	0.24	20.25
18.	Italy	01	0.24	20.49
19.	Japan	262	61.64	82.13
20.	Jordan	03	0.70	82.83
21.	Lebanon	04	0.94	83.77
22.	Mexico	02	0.47	84.24
23.	Newzealand	04	0.94	85.18
24.	Nigeria	06	1.41	86.59
25.	Pakistan	03	0.70	87.29
26.	Poland	05	1.18	88.47
27.	Portugal	01	0.24	88.71
28.	South Korea	03	0.70	89.41
29.	Sweden	01	0.24	89.65
30.	Taiwan	02	0.47	90.12
31.	Thailand	05	1.18	91.30
32.	Turkey	04	0.94	92.24
33.	UK	04	1.41	93.65
34.	USA	27	6.35	100
<b>Total</b>		<b>425</b>	<b>100</b>	

### Ratio of Author Self Citations to Total Citations

The phenomenon of citing one's own single - authored or multi-authored publications is termed as author self citation. In table 6 reveals that Author Self Citation accounts for only 809 citations. The ratio of Author Self Citation to total citations is 1: 16.



Table 6: Ratio of Author Self Citations to Total Citations

Number of author self citations	Total Number of Citations	Ratio
809	13012	1 : 16

### Ratio of Journal Self Citations to Total Citations

The phenomenon of a journal citing itself is termed as journal self citation. Table 7 indicates that Journal self citation is negligible. The ratio of Journal self citation to total citations is 1: 58.

Table 7: Ratio of Journal Self Citations to Total Citations

Number of journal self citations	Total Number of Citations	Ratio
223	13012	1 : 58

### Durability of Publications

In table 8 depicts the major portion of citations 7006 (53.84%) were published from 1987 to 2010. 10102 (77.64%) citations published below 20 years old. Only 5% citations were more than 40 years old. It is clear from the result large numbers of citations are taken from recent publications.

Table 8 : Durability of Publications

1-10 years	11-20 years	21-30 years	31-40 years	>40 yrs
7006	3096	1426	797	687
53.84%	23.79%	10.96%	6.13%	5.28%

## FINDINGS

The following are the major finding observed from the study:

- i) The international exposure 163 (38.36%) to this Journal are very high, 33 countries contribute the JPS in vol. 38 – 47.
- ii) Each articles were published with cited references, it shows that only the research articles are published. The average number of cited references is 30.
- iii) The average number of articles published is each issue is 11.
- iv) The large of cited reference are recent publication.

- v) Journal self citation is negligible (only 223 out of 13012), which reflects that the journal does not command high respect even among Japanese Poultry Scientists as well.
- vi) Number of author self citations is high (809 out of 13012). It is observed the large number of authors practices before this study.
- vii) Highest number of citations are taken from journal source i.e. 10972 (84.32%) and next are from books 1048 (8.06%).
- viii) It is concluded from the authorship pattern study that the maximum articles (91%) has been cited (written) more than single author.
- ix) Most of the articles comes from educational institute.

## REFERENCES

- Hirade, M.A. & Dankhade, S.S.K. (2002). Citation analysis of Doctoral research in Economics. *ILA Bulletin*, 38(2), 36 - 45
- Weiping Yue, S., Conception & Wilson (2004). Measuring the citation impact of research journals in clinical neurology : A structural equation modeling analysis. *Scientometrics* 60 (3), 317-332.
- Locket, B. (1989). Guide to the evaluation of library collections, Chicago : American Library Association.
- Baskaram, C., Batcha, M.S. & Nagarajan, M. (2007). Citation impact and pattern of co-authorship of cardiology journals in G8 countries. 1(1).
- Wilson, C.S (1999). Informatics. *Annual Review of Information Science and Technology* 34. p 107-242
- Jan, R. (2009). *Citation analysis of Library Trends*. *Webology*, 6(1). Retrieved from <http://www.webology.org/2009/v621/167.html>
- Shokeen, A. & Kaushik, S.K. (2004). Indian Journal of Plant Physiology : A Citation Analysis. *Annals of Library and Information Studies*. 51(3).104-107.