Referencing Pattern of Sociology Theses Submitted to Punjabi University, Patiala

Amritpal Kaur* and Gurjeet Kaur Rattan**


* *, **DLIS, Guru Nanak Dev University, Amritsar

Corresponding Author
Amritpal Kaur
Amrit_lisc@yahoo.co.in

ABSTRACT

The present paper investigates the citations of Sociology theses submitted to Punjabi University, Patiala for the period 2000-2014. The study was carried out to find the number of theses, authorship pattern, chronological distribution, format of citations etc. It was found that sociology researchers had used 1938 citations for writing 24 theses. In addition to this a ranked list of journals was also prepared in order to identify core journals as well as to test the applicability of Bradford Law of Scattering. Economic and Political Weekly was the most cited journal with 47 citations. The journal distribution pattern confirmed to Bradford distribution when employed with Leimkuhler model. Ten journals out of 13 core journals were available at Bhai Kahn Singh Nabha Library, Punjabi University, Patiala. Core journals were mainly from three countries i.e. India, USA and UK.

Key Terms: Citation analysis, Bradford Law, Sociology, Theses

INTRODUCTION

Citations, the elements of citation analysis studies, occupy integral part of all types of research papers. A researcher while writing a research paper refers to a number of documents. Finally the researcher quotes them with their bibliographical details Mahapatra. Citation analysis is an activity involving analysis of citations, which is integral part of scientific communication Ramesh & Nagaraju. Smith in her overview of citation analysis explains two types of citations. “A reference is the acknowledgement that one document gives to another; a citation is the acknowledgement that one document receives from another.” A relationship is implied between the citing and cited document in all or in part. Citation analysis is that part of bibliometrics which deals with the study of these relationships. In order to maintain the reasonable collection of periodicals, it is necessary to study the characteristics of subject literature used by researchers Zafrinusha.

Therefore, information requirements of the research scholars can be better measured by studying their resource use pattern in the recent past. Citation analysis is one such measure. The findings of the citation analysis of institutional research may prove a valuable input for collection policy of the library of any institution Burman.

LITERATURE REVIEW

Citations appended to journals and Ph. D. theses of various disciplines submitted to any institution of higher learning have been the subject of study since long. Few studies are given below:

Haycock analysed the citations of 43 dissertations on curriculum and instruction of the University of Minnesota for the period 2000-2002. The results showed that monographs and reports were 56% of the citations; maximum journal citations of the period 1990-1999 were cited by the researchers and Educational Leadership was the most cited journal. The citations analysed were used as a measure of journal collection development and cancellation decisions.

Lokhandacarried out citation analysis of 5252 citations of 20 LIS doctoral dissertations of Poona University to find out a way of determining the use of information sources made by the scholars of the university. It was revealed that journals were the most (45.16%) referred source of information by the researchers of Library and Information Science; the journal Scientometrics was ranked the highest with 98 citations.
Dhanamjaya aimed to examine 137 theses of engineering and technology discipline of the various universities in Karnataka. The findings of the study revealed that average citations per thesis was approximately 125; journals were the most heavily (43.54%) used form of citations; there was dominance (41.37%) of single authorship; half-life period of journals was 20 years; researchers used most of the literature published between 1971-2008; USA occupied top position as 62.43% of citations were from this country and Journal of Materials Science from USA was ranked first in the ranked list of periodicals cited.

Har explored the distribution of 179 articles and references of the journal Collection Building for the period 2005-2012. The results revealed that there were 2388 references with 85 self-citations. Majority of the articles cited citations from 10 to 19 per article. More than 65% of the contributions were single authored and about 70% authors were from USA. Periodicals were the most used form of reference and Collection Building was the most cited journal followed by Academic Librarianship.

Singh & Bebin jointly presented citation analysis of 25 Ph.D. theses with 5766 citations in sociology submitted to the University of Delhi during 1995-2010. A ranked list of 30 most cited journals in sociology revealed that Economic & Political Weekly was the most (137 times) cited journal. About 67% of citations were from book citations; more than 45% citations were from India and maximum citations (83.94%) were single authored.

Amritpal & Ratan jointly conducted citation analysis of 17 doctoral theses in Library and Information Science submitted to Punjabi University, Patiala till 2013. It was found that journal citations were maximum (48.43%); authors preferred to work in isolation; out of total book citations 49.77% were of Indian origin; journal literature used was more recent than books; College and Research Libraries was the most preferred journal by the LIS researchers and the journal distribution pattern in LIS Ph.D. theses did not confirm to Bradford distribution. While applying Leimkuhler model it was found that the law fitted well for the given data set.

Shah presented bibliometric analysis of 81 articles published in the journal ‘International Journal of Agriculture Sciences’ during 2009-2014. It was revealed that the degree of collaboration was 0.8765; more than 53% of articles were contributed by Indian authors; maximum references used were for the period 2001-2005; journals were the most referred form of references for writing research papers; authors used more of international journals than Indian. A ranked list of journals was also compiled to identify core journals. It was suggested that libraries of agricultural universities and related institutions should focus on the most frequently used resources while subscribing the journals.

**OBJECTIVES**

The following objectives are kept in mind while conducting this study.

- To analyse authorship pattern including degree of collaboration
- To obtain the chronological distribution of citations
- To find half-life period of citations
- To find the geographical distribution of books and core journals
- To prepare a ranked list of journals in order to identify core journals
- To test the applicability of Bradford law to the present study
- To check the availability of core journals in Bhai Kahn Singh Nabha Library

**HYPOTHESES**

- Among the different forms of citations, the contribution of web citations is very less in Sociology, but the trend of using web citations is increasing.
- Half-life period of book citations is more than journal citations.
- Researchers prefer Indian books as compared to foreign books.
- Journal distribution of citation in sociology confirm to Bradford Law of Scattering.

**METHODOLOGY**

The study examined 24 theses of Sociology submitted to Punjabi University, Patiala during 2000-2014. References were scrutinised to find out their authorship pattern, format, electronic or print form and chronological distribution. The data was recorded to excel spread sheets and tabulated. The degree of collaboration and half-life of citations were calculated using the formula devised by Subramanian & Sen. A ranked list of journals was prepared to identify core journals in the field of Sociology to test the applicability of Bradford Law of Scattering.

**DATA ANALYSIS**

- Yearly Submission of Theses

<table>
<thead>
<tr>
<th>Year</th>
<th>Theses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>2</td>
<td>8.33</td>
</tr>
<tr>
<td>2001</td>
<td>3</td>
<td>12.5</td>
</tr>
<tr>
<td>2002</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2003</td>
<td>1</td>
<td>4.17</td>
</tr>
<tr>
<td>2004</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2005</td>
<td>1</td>
<td>4.17</td>
</tr>
<tr>
<td>2006</td>
<td>3</td>
<td>12.5</td>
</tr>
<tr>
<td>2007</td>
<td>2</td>
<td>8.33</td>
</tr>
<tr>
<td>2008</td>
<td>2</td>
<td>8.33</td>
</tr>
<tr>
<td>2009</td>
<td>2</td>
<td>8.33</td>
</tr>
<tr>
<td>2010</td>
<td>3</td>
<td>12.5</td>
</tr>
<tr>
<td>2011</td>
<td>3</td>
<td>12.5</td>
</tr>
<tr>
<td>2012</td>
<td>1</td>
<td>4.17</td>
</tr>
<tr>
<td>2013</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2014</td>
<td>2</td>
<td>8.33</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>100</td>
</tr>
</tbody>
</table>

Total 24 theses submitted during the period of 15 years. The table shows that in the years 2001, 2007, 2008, 2009 and 2014 two theses were submitted each year and in the years 2002, 2006, 2010 and 2011 three theses were submitted. In the years 2005
and 2012 only one thesis was submitted each year and there was no thesis submission in the years 2000, 2003, 2004 and 2013.

- **Number of Theses and Citations**

Table 2 shows that most of the theses (70.83%) contain 51 to 100 citations followed by 4 theses (16.67%) which contain 101-150 citations. There are 1938 references in 24 theses. Average citations per thesis come out to be 80.75.

- **Form of Citations**

Table 3 indicates that journals (36.33%) are the most referred form of citations whereas government publications are the least used (0.57%).

- **Authorship Pattern of All Sources**

Table 4 represents the authorship pattern of citations used by the scholars. A majority of the citations (74.30%) are single authored followed by two authors (14.86%), more than three authors (4.13%) and three authors (3.61%). It is clear from the authorship pattern that the authors prefer to work in isolation. The authorship of 60 citations is not available. The degree of collaboration is 0.23.

- **Authorship Pattern of Books and Journals**

Table 5: Authorship Pattern of Books and Journals

The authorship pattern of books and journals has been shown in Table 5 which indicates that the single authorship is dominant in both books and journal citations with 81.69% and 62.64% citations respectively. The two authors, three authors and more than three authors in books are 13.65%, 2.07% and 2.59% whereas it is 23.01%, 6.96% and 7.39% in journals respectively. The degree of collaboration of books and journals is 0.18 and 0.37 respectively.

- **Half-Life or Obsolescence of Citations**

The half-life or obsolescence of sociology documents is shown by analysing the age of cited documents in Table 6. It is clear from this table that about 1% of the citations are 5 years old. 9.29% of the citations are ten years old; 24.1% citations are fifteen years old. Half-life period (Sen, 1999) of sociology documents has been revealed in Table 7. It is clear from this table that about 1% of the citations are 5 years old. 9.29% of the citations are ten years old; 24.1% citations are fifteen years old. Half-life period of books and journals are the least used (0.57%).

- **Table 2: Distribution of Number of Citations in Theses**

<table>
<thead>
<tr>
<th>Citations</th>
<th>Theses</th>
<th>%age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 50</td>
<td>3</td>
<td>12.50</td>
</tr>
<tr>
<td>51-100</td>
<td>17</td>
<td>70.83</td>
</tr>
<tr>
<td>101-150</td>
<td>4</td>
<td>16.67</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>100</td>
</tr>
</tbody>
</table>

- **Table 3: Sources of Citations**

<table>
<thead>
<tr>
<th>Sources</th>
<th>Citations</th>
<th>%age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journals</td>
<td>704</td>
<td>36.33</td>
</tr>
<tr>
<td>Books</td>
<td>579</td>
<td>29.88</td>
</tr>
<tr>
<td>Chapters from a book</td>
<td>172</td>
<td>8.88</td>
</tr>
<tr>
<td>Conference Proceedings</td>
<td>34</td>
<td>1.75</td>
</tr>
<tr>
<td>Theses/Dissertations</td>
<td>112</td>
<td>5.78</td>
</tr>
<tr>
<td>Web-sites</td>
<td>71</td>
<td>3.66</td>
</tr>
<tr>
<td>Dictionary</td>
<td>15</td>
<td>0.77</td>
</tr>
<tr>
<td>Encyclopaedia</td>
<td>23</td>
<td>1.19</td>
</tr>
<tr>
<td>Reports</td>
<td>27</td>
<td>1.39</td>
</tr>
<tr>
<td>Newspapers</td>
<td>107</td>
<td>5.52</td>
</tr>
<tr>
<td>Govt. Publications</td>
<td>11</td>
<td>0.57</td>
</tr>
<tr>
<td>Others</td>
<td>83</td>
<td>4.28</td>
</tr>
<tr>
<td>Total</td>
<td>1938</td>
<td>100</td>
</tr>
</tbody>
</table>

- **Table 4: Authorship Pattern of All Sources**

<table>
<thead>
<tr>
<th>Authors</th>
<th>Citations</th>
<th>%age</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Author</td>
<td>1440</td>
<td>74.30</td>
</tr>
<tr>
<td>2 Authors</td>
<td>288</td>
<td>14.86</td>
</tr>
<tr>
<td>3 Authors</td>
<td>70</td>
<td>3.61</td>
</tr>
<tr>
<td>More than 3 authors</td>
<td>80</td>
<td>4.13</td>
</tr>
<tr>
<td>Un traced</td>
<td>60</td>
<td>3.10</td>
</tr>
<tr>
<td>Total</td>
<td>1938</td>
<td>100</td>
</tr>
</tbody>
</table>

- **Table 5: Authorship Pattern of Books and Journals**

<table>
<thead>
<tr>
<th>Authors</th>
<th>Book Citations</th>
<th>%age of Book Citations</th>
<th>Journal Citations</th>
<th>%age of Journal Citations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 author</td>
<td>473</td>
<td>81.69</td>
<td>441</td>
<td>62.64</td>
</tr>
<tr>
<td>2 author</td>
<td>79</td>
<td>13.65</td>
<td>162</td>
<td>23.01</td>
</tr>
<tr>
<td>3 authors</td>
<td>12</td>
<td>2.07</td>
<td>49</td>
<td>6.96</td>
</tr>
<tr>
<td>More than 3 authors</td>
<td>15</td>
<td>2.59</td>
<td>52</td>
<td>7.39</td>
</tr>
<tr>
<td>Total</td>
<td>579</td>
<td>100</td>
<td>704</td>
<td>100</td>
</tr>
</tbody>
</table>

Half-life or obsolescence of sociology documents is shown by analysing the age of cited documents in Table 6. It is clear from this table that about 1% of the citations are 5 years old. 9.29% of the citations are ten years old; 24.1% citations are fifteen years old. Half-life period (Sen, 1999) of sociology documents has come out to be about 25.21 years. Half-life period of books and journals is about 29.27 years whereas for journals it is 23.56 years.

- **Table 6: Distribution of Citations in Reverse Chronological**

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Citations</th>
<th>Cumulative Citations</th>
<th>%age of Citations</th>
<th>Cumulative %age of Citations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0.05</td>
<td>0.05</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>4</td>
<td>0.16</td>
<td>0.21</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>6</td>
<td>0.1</td>
<td>0.31</td>
</tr>
<tr>
<td>5</td>
<td>13</td>
<td>19</td>
<td>0.67</td>
<td>0.98</td>
</tr>
<tr>
<td>6</td>
<td>29</td>
<td>48</td>
<td>1.1</td>
<td>2.48</td>
</tr>
<tr>
<td>7</td>
<td>37</td>
<td>85</td>
<td>1.91</td>
<td>4.39</td>
</tr>
<tr>
<td>8</td>
<td>22</td>
<td>107</td>
<td>1.14</td>
<td>5.52</td>
</tr>
<tr>
<td>9</td>
<td>35</td>
<td>142</td>
<td>1.81</td>
<td>7.33</td>
</tr>
<tr>
<td>10</td>
<td>38</td>
<td>180</td>
<td>1.96</td>
<td>9.29</td>
</tr>
<tr>
<td>11</td>
<td>73</td>
<td>253</td>
<td>3.77</td>
<td>13.1</td>
</tr>
<tr>
<td>12</td>
<td>51</td>
<td>304</td>
<td>2.63</td>
<td>15.7</td>
</tr>
<tr>
<td>13</td>
<td>55</td>
<td>359</td>
<td>2.84</td>
<td>18.5</td>
</tr>
<tr>
<td>14</td>
<td>51</td>
<td>410</td>
<td>2.61</td>
<td>21.2</td>
</tr>
<tr>
<td>15</td>
<td>57</td>
<td>467</td>
<td>2.94</td>
<td>24.1</td>
</tr>
<tr>
<td>16</td>
<td>78</td>
<td>545</td>
<td>4.02</td>
<td>28.1</td>
</tr>
<tr>
<td>17</td>
<td>57</td>
<td>602</td>
<td>2.94</td>
<td>31.1</td>
</tr>
<tr>
<td>18</td>
<td>67</td>
<td>669</td>
<td>3.46</td>
<td>34.5</td>
</tr>
<tr>
<td>19</td>
<td>39</td>
<td>708</td>
<td>2.01</td>
<td>36.5</td>
</tr>
<tr>
<td>20</td>
<td>42</td>
<td>750</td>
<td>2.17</td>
<td>38.7</td>
</tr>
<tr>
<td>21</td>
<td>42</td>
<td>792</td>
<td>2.17</td>
<td>40.9</td>
</tr>
<tr>
<td>22</td>
<td>34</td>
<td>826</td>
<td>3.75</td>
<td>42.6</td>
</tr>
<tr>
<td>23</td>
<td>43</td>
<td>869</td>
<td>2.22</td>
<td>44.8</td>
</tr>
<tr>
<td>24</td>
<td>46</td>
<td>915</td>
<td>2.37</td>
<td>47.2</td>
</tr>
<tr>
<td>25</td>
<td>45</td>
<td>960</td>
<td>2.32</td>
<td>49.5</td>
</tr>
<tr>
<td>26</td>
<td>43</td>
<td>1003</td>
<td>2.22</td>
<td>51.8</td>
</tr>
<tr>
<td>27</td>
<td>37</td>
<td>1040</td>
<td>1.91</td>
<td>53.7</td>
</tr>
<tr>
<td>Total</td>
<td>898</td>
<td>1938</td>
<td>46.3</td>
<td>100</td>
</tr>
</tbody>
</table>

- **Table 7: Chronological Distribution of Citations**

Chronological distribution of citations is revealed in Table 7. It is depicted in this table that researchers use maximum (29.41%) citations of the period 1995-2005 followed by 20.59% of the
period 1985-1994. Least citations (0.15%) of the period 1905-1914 are used and information about 60 (3.09%) citations is not available.

### Chronological Distribution of Books and Journals

**Table 8: Chronological Distribution of Books and Journals**

<table>
<thead>
<tr>
<th>Period</th>
<th>Book Citations</th>
<th>% of Book Citations</th>
<th>Journal Citations</th>
<th>% of Journal Citations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before 1905</td>
<td>3</td>
<td>0.52</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1905-1914</td>
<td>1</td>
<td>0.17</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1915-1924</td>
<td>5</td>
<td>0.86</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1925-1934</td>
<td>3</td>
<td>0.52</td>
<td>2</td>
<td>0.28</td>
</tr>
<tr>
<td>1935-1944</td>
<td>8</td>
<td>1.38</td>
<td>4</td>
<td>0.57</td>
</tr>
<tr>
<td>1945-1954</td>
<td>16</td>
<td>2.76</td>
<td>9</td>
<td>1.28</td>
</tr>
<tr>
<td>1955-1964</td>
<td>44</td>
<td>7.6</td>
<td>31</td>
<td>4.4</td>
</tr>
<tr>
<td>1965-1974</td>
<td>81</td>
<td>14.34</td>
<td>56</td>
<td>7.96</td>
</tr>
<tr>
<td>1975-1984</td>
<td>116</td>
<td>20.03</td>
<td>132</td>
<td>18.75</td>
</tr>
<tr>
<td>1985-1994</td>
<td>113</td>
<td>19.52</td>
<td>172</td>
<td>24.43</td>
</tr>
<tr>
<td>1995-2004</td>
<td>155</td>
<td>26.77</td>
<td>243</td>
<td>34.52</td>
</tr>
<tr>
<td>2005-2014</td>
<td>30</td>
<td>5.18</td>
<td>52</td>
<td>7.39</td>
</tr>
<tr>
<td>Not Available</td>
<td>2</td>
<td>0.35</td>
<td>2</td>
<td>0.28</td>
</tr>
<tr>
<td>Total</td>
<td>579</td>
<td>100</td>
<td>704</td>
<td>100</td>
</tr>
</tbody>
</table>

Chroniclal distribution of book and journal citations is evident from table 8. It is clear from this table that researchers prefer book citations (26.77%) and journal citations (34.52%) for the period 1995-2004. The second preference for books and journals is for the period 1985-1994. There are no journal citations during the period 1905-1914 and 1915-1924. There are least (0.17%) book citations during the period 1905-1914.

### E-Citation and P-Citations

**Table 9: Electronic/Print Resources**

<table>
<thead>
<tr>
<th>Period</th>
<th>E-Citations</th>
<th>Print Citations</th>
<th>Citations</th>
<th>% of E-Citations to Total Citations</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-2004</td>
<td>0</td>
<td>496</td>
<td>496</td>
<td>-</td>
</tr>
<tr>
<td>2005-2009</td>
<td>53</td>
<td>809</td>
<td>862</td>
<td>6.15</td>
</tr>
<tr>
<td>2010-2014</td>
<td>42</td>
<td>538</td>
<td>580</td>
<td>7.24</td>
</tr>
<tr>
<td>Total</td>
<td>95</td>
<td>1843</td>
<td>1938</td>
<td>4.90</td>
</tr>
</tbody>
</table>

The type of citation whether it is in electronic form or print form is presented in Table 9. In order to examine the use of electronic resources, the whole period of 15 years is divided into three equal periods of five years each. It is clear from this division that there is no use of e-resources in the first five years. In the next five years there usage is 6.15% which further rose to 7.24% during the period 2010-14. The overall percentage of e-resources and p-resources is 4.9% and 95.1. The trend of using electronic resources is increasing.

### Geographical Distribution of Books Citations

**Table 10: Geographical Distribution of Books Citation**

<table>
<thead>
<tr>
<th>Country</th>
<th>Citations</th>
<th>%age</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>277</td>
<td>47.84</td>
</tr>
<tr>
<td>USA</td>
<td>173</td>
<td>29.88</td>
</tr>
<tr>
<td>UK</td>
<td>70</td>
<td>12.09</td>
</tr>
<tr>
<td>Canada</td>
<td>3</td>
<td>0.52</td>
</tr>
<tr>
<td>Russia</td>
<td>3</td>
<td>0.52</td>
</tr>
<tr>
<td>Switzerland</td>
<td>2</td>
<td>0.34</td>
</tr>
<tr>
<td>Eight countries one citation each</td>
<td>8</td>
<td>1.38</td>
</tr>
<tr>
<td>NA</td>
<td>43</td>
<td>7.43</td>
</tr>
<tr>
<td>Total</td>
<td>579</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 10 shows that the first preference is for Indian books with 47.84% followed by books from USA (29.88%) and UK (12.09%). The use of Indian books is 47.84% whereas the use of foreign books is 44.73%. The place of publication of 7.43% of book citations is not available. Research scholars prefer books of Indian origin as compared to foreign books.

### Ranked List of Journals

**Table 11: Ranked List of Journals**

<table>
<thead>
<tr>
<th>Journal</th>
<th>Times Cited</th>
<th>Rank</th>
<th>%age of citations</th>
<th>Cum. Citations</th>
<th>Cum. %age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic and Political Weekly</td>
<td>47</td>
<td>1</td>
<td>6.68</td>
<td>47</td>
<td>6.68</td>
</tr>
<tr>
<td>Indian Journal of Psychiatry</td>
<td>25</td>
<td>2</td>
<td>3.55</td>
<td>72</td>
<td>10.23</td>
</tr>
<tr>
<td>University News</td>
<td>21</td>
<td>3</td>
<td>2.98</td>
<td>93</td>
<td>13.21</td>
</tr>
<tr>
<td>Social Welfare</td>
<td>18</td>
<td>4</td>
<td>2.56</td>
<td>111</td>
<td>15.77</td>
</tr>
<tr>
<td>Social Science and Medicine</td>
<td>17</td>
<td>5</td>
<td>2.41</td>
<td>128</td>
<td>18.18</td>
</tr>
<tr>
<td>Home Economics Research Journal</td>
<td>14</td>
<td>6</td>
<td>1.99</td>
<td>142</td>
<td>20.17</td>
</tr>
<tr>
<td>Journal of Rural Development</td>
<td>14</td>
<td>6</td>
<td>1.99</td>
<td>156</td>
<td>22.16</td>
</tr>
<tr>
<td>Social Action</td>
<td>14</td>
<td>6</td>
<td>1.99</td>
<td>170</td>
<td>24.15</td>
</tr>
<tr>
<td>Kurukshetra</td>
<td>11</td>
<td>7</td>
<td>1.56</td>
<td>181</td>
<td>25.71</td>
</tr>
<tr>
<td>Competition Master</td>
<td>8</td>
<td>8</td>
<td>1.14</td>
<td>189</td>
<td>26.85</td>
</tr>
<tr>
<td>Fertility and Sterility</td>
<td>8</td>
<td>8</td>
<td>1.14</td>
<td>197</td>
<td>27.98</td>
</tr>
<tr>
<td>The Indian Journal of Social Work</td>
<td>8</td>
<td>8</td>
<td>1.14</td>
<td>205</td>
<td>29.12</td>
</tr>
<tr>
<td>Women Era</td>
<td>8</td>
<td>8</td>
<td>0.99</td>
<td>213</td>
<td>30.26</td>
</tr>
<tr>
<td>American Anthropologist</td>
<td>7</td>
<td>9</td>
<td>0.99</td>
<td>220</td>
<td>31.25</td>
</tr>
<tr>
<td>Dissertation Abstracts</td>
<td>7</td>
<td>9</td>
<td>0.99</td>
<td>227</td>
<td>32.24</td>
</tr>
<tr>
<td>International</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It is clear from table 11 that the journal Economic and Political Weekly is cited maximum number of times(47) followed by Indian Journal of Psychiatry (25), University News (21 times), Social Welfare (18). The first 5 journals contain 18.18% of journal citations.

### Scattering of Journal Articles and Bradford Law

Table 12 shows the distribution of journals into three zones. The distribution of journals is in the ratio of 13:58:252 which is geometric progression. Hence, the dispersion of journals in Sociology is as per Bradford Distribution. In this the value of k has been calculated by the formula of Egghe (1986, 1990).

\[ k = (1.781 \times 47)^{\frac{1}{3}} = 4.37 \]

By this value of \( k \) the different Bradford groups have been calculated. The nucleus zone is \( r_n \) and the value is calculated as below:

\[ r_n = \frac{323(4.37 - 1)}{(4.37^3 - 1)} \]

\( r_n = 13.2 \)

Findings are shown in table 12 with the values of three zones and Bradford multiplier:

**Table 12: Scattering of Journals and Citations over Bradford Zones**

<table>
<thead>
<tr>
<th>Different Zones</th>
<th>Journals</th>
<th>Citations</th>
<th>Bradford Multiplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core zone</td>
<td>13</td>
<td>213</td>
<td></td>
</tr>
<tr>
<td>Zone 1</td>
<td>58</td>
<td>203</td>
<td>4.46</td>
</tr>
<tr>
<td>Zone 2</td>
<td>252</td>
<td>288</td>
<td>4.34</td>
</tr>
<tr>
<td>Total</td>
<td>323</td>
<td>704</td>
<td>-</td>
</tr>
</tbody>
</table>

The number of journals in the nucleus is 13.2 and Bradford multiplier is 4.37. Therefore, the Bradford Distribution is written as \( 13.2: 13.2 \times 4.37: 13.2 \times (4.37)^2 = 1: n: n \) i.e. 13.2: 57.68: 252.06.

The value of Bradford multiplier for a zone has been calculated by dividing the number of journals of a group by the number of
journals of the preceding group. The Bradford multiplier for each zone has come out to be 4.46 and 4.34 which is very close to the value of 4.37 calculated by the formula of Egghe. Therefore, the Bradford Law fits well to the present data set. Each of the three zones does not exactly contain one third of the citations as devised by Bradford. There is no match in the proportion of number of journals and articles in each zone.

Geographical Distribution of Core Journals

Table 13 depicts that ten journals out of core journals are published from India, 2 from USA and one from UK. It indicates that researchers of Sociology prefer Indian journals as compared to foreign journals and depend upon literature published from three countries mainly India, USA and UK. Economic and Political Weekly is the most cited journal which is also from India.

FINDINGS

The Findings of the study are as follows

- There are 24 theses submitted in Sociology with 1938 citations during 2000-2014. Average citations per thesis is 80.75.
- Periodicals are the most preferred form of citations as they contribute 36.33% of the total citations and books are the second preference (29.88%). The percentage of web resources is 3.66.
- The use of electronic resources is 0% during the period 2000-2004 but it was 6.15% during the period 2005-2009 which further increased to 7.24% during the years 2010-2014 as represented in Table 9. It indicates that the trend of using electronic resources is increasing. This proves the first hypothesis true.
- Authors of Sociology prefer to work in isolation as 74.30% of the citations are single authored. The degree of collaboration is 0.23.
- The researchers cited maximum (29.41%) documents during the period 1995-2004. The half-period life of sociology documents is 25.21 years. The half-period life of books and journals is 29.27 years and 23.56 years respectively. It is clear that the half-life period of books is more than journals which confirms to second hypothesis.
- Out of the total 579 books, the percentage of Indian books is 47.84% whereas use of foreign books is 44.73%. It indicates that researchers prefer Indian books as compared to foreign books. The third hypothesis also stands vindicated.
- Ranked list of journals identified 13 core journals and Bradford Law of Scattering fits well to the present data distribution. The fourth hypothesis is also proved. The core journals are mainly from three countries India, USA and UK and ten out of the 13 core journals are from India. As far as the availability of these core journals is concerned ten out of 13 journals are available at Bhai Kahn Singh Nabha Library, Punjabi University, and Patiala.

REFERENCES


